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PRINCIPAL OF THE UNITED COLLEGE OF ST ANDREWS,

AND HISTORIOGRAPHER TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

IN SIX VOLUMES.

VOL. I.

EDINBURGH:

PRINTED FOR PETER HILL, EDINBURGH; AND VERNOR, HOOD, AND SHARPE, LONDON.

ALEX. SMELLIE, PRINTER.

1808.

P69
v.1

To

HIS ROYAL HIGHNESS

George Prince of Wales.

SIR,

MANY years ago I obtained permission to inscribe a Geographical Work to your Royal Highness; but, at that period, some unforeseen incidents occurred to prevent me from availing myself of the honour conferred upon me. However, by extending the plan I had adopted, and by frequent revision of what I had prepared for the press, I have endeavoured to render the System of Geography, *now announced, more complete, and the present Volume more worthy of the patronage of your Royal Highness.*

I am sensible that, intimately acquainted as your Royal Highness already is with the science here treated of, you cannot receive either information, or amusement from the Volume that now solicits your protection; but I may, perhaps, be permitted to flatter myself, that, at least, the labour and pains employed, on so extensive a scale, in illustration of this important subject, may meet with some share of your Highness's approbation.

I have the honour to be,

SIR,

Your most obliged

And most devoted servant,

St Andrews,
Mar. 29th, 1808.

JAMES PLAYFAIR.

195841

ADVERTISEMENT

CONCERNING THE

PLAN AND UTILITY OF THE FOLLOWING WORK.

THE face of the terrestrial globe is perpetually undergoing changes. The explosion of subterranean fires; the gradual diminution of mountains; variations in the courses of rivers; the recession of the sea from some of its coasts, and its encroachments on others; introduce new appearances in nature. Extensive tracts, once inhabited and cultivated, are now waste, or overflown with water; while immense territories, formerly unknown or neglected, have become the theatre of human industry.

The

THE works of men are still more unstable than the basis on which they are reared. Many cities, kingdoms, and empires, which once flourished in the greatest splendour, have entirely disappeared. The mouldering fragments of Rome, Carthage, and Palmyra, scarcely convey to the antiquary an idea of their former magnificence; and even the situations of Memphis, Nineveh, Babylon, and Palibothra, are unknown. Those nations, whose transactions are celebrated in ancient history, have at this day no existence; and those which now flourish will, it is probable, in the lapse of a few ages, meet with the same fate. The splendid fabrics of Assyrian, Grecian, Macedonian, and Roman ambition, have been long ago overturned; and those which succeeded them have experienced similar revolutions.

THE detail of these incessant changes, to persons of every description, is highly instructive. All men feel a propensity to look back into antiquity, in order to trace, from periods the most remote, the history of the globe which they inhabit, and of the species to which they belong. Hence the accounts of ancient times, which have been transmitted to us, though imperfect, are generally interesting. They are read with avidity by the learned as well as the vulgar; and they are regarded by all as a source of valuable information.

To the perusal of ancient records, and the contemplation of events which have so materially affected the external appearances of the earth and

and its inhabitants, an acquaintance with the regions which were the scenes of action is essentially necessary. No argument is requisite to shew, that the boundaries, general divisions, and even parts more minute of every country, must be known before the history of it can be understood. The knowledge of these particulars is only to be acquired by the study of ANCIENT GEOGRAPHY.

THE superior advantages to be derived from *Modern History* are obvious. Being more certain, more circumstantial, and more nearly related to us, it is proportionally the more interesting, and the more indispensable. But, without the aid of Geography, to form a proper estimate even of the most recent transactions would be a vain attempt.

THE *Middle Age* connects the ancient and modern world. During this period, the appearance of Europe and of Asia was entirely changed. New nations, rushing like torrents from the bleak regions of the north, and overturning the monuments of ancient wisdom, introduced divisions of territory, designations of property, and systems of government, till then unknown. Accounts of those important revolutions have been collected from the scanty annals of the times. But it is impossible to peruse them with advantage, unless the geographical arrangements made during that obscure period be previously reviewed with attention.

As the knowledge of Geography is so essential to the study of history, it is of great importance to inquire into the ORIGIN and PROGRESS of this science.

To review the state of Geography from the earliest period to its latest improvement;—to describe every part of Europe, Asia, Africa, and America; 1st. As it existed in the most remote times; and, 2dly, As it exists at present;—and to illustrate the whole with maps constructed according to the best information;—such is the design and general plan of the Work now submitted to the Public.

THE materials of this work have been derived from innumerable sources, and are digested into a system as concise and methodically arranged as the extensiveness of the plan and the nature of the subject will admit.

ALL that is useful for the illustration of the early periods of history has been selected from the productions of the Ancients.

THE histories, memoirs, topographical descriptions, antiquities, itineraries, and voyages of the Moderns have been consulted, and each has supplied some portion of information.

MANY

MANY errors in other geographical performances have been detected and avoided; but, that none will be found in the subsequent volumes, it would be presumption to imagine. In a work of this nature errors are unavoidable, partly owing to the great variety of particulars treated, and partly to the inaccuracies of those deemed worthy of credit. Without an actual survey of the whole globe, the precise situation of places cannot always be ascertained; and those who have visited distant countries are sometimes not sufficiently qualified to describe them with accuracy, or take things on report which they communicate as the results of their own observation. He who relies on such authorities will be often misled. No pains, however, have been spared in order to discover the truth, and to render this work in some degree worthy of public approbation. Errors, mistakes, and defects, the candid reader will perhaps pardon, and shew some indulgence to an author who has spent thirty years of his life in compiling two systems, one of which has already received the sanction of the public.

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THE

ERRATA.

Page xli	line 3	*for* 2750+48	*read* 3750×48
xlii	note	*for* last century, *read* 17th century.	
lxi	line 20		
cviii	line 2		

DIRECTIONS TO THE BINDER.

Maps No. 1, 2, & 3, to face p. xcviii.

THE

HISTORY

OF THE

ORIGIN & PROGRESS OF GEOGRAPHY.

1. GEOGRAPHY, a science which treats of the surface of the earth, may be considered in a threefold view, or resolved into three capital branches. 1. Physical or Natural Geography, which ascertains the position, figure, and magnitude of the constituent parts of the terrestrial globe, viz. mountains, plains, vallies, rivers, lakes, seas, islands, &c. 2. Historical Geography, which relates to migrations and settlements of nations, and to the extent, situation, and subdivisions of states, kingdoms and empires, in different periods of time. 3. Mathematical Geography, which comprehends the various methods of constructing maps, Definition, division, &c. of Geography.

and of determining the positions of places by astronomical observations, geometrical measurement, &c. The utility of this science has been frequently displayed, and is now universally admitted. Its rise and progress being less obvious, and seldom reviewed, merit a particular illustration.

Date of its origin unknown.

2. The origin of geography must be referred to a period long posterior to the dispersion of the descendants of Noah in the plain of Shinar, an extraordinary event which happened twenty-two centuries before the date of the Christian æra. Neither the course of the migration of every tribe, nor the time of its establishment, can be ascertained; but several ages must have elapsed before a considerable proportion of the globe was peopled. While the primitive settlements were scattered over the regions allotted to them by the appointment of heaven, and while mankind remained strangers to commerce, arts, and sciences, there was no need of any method of determining the limits of property with precision, nor of any sure guide to conduct adventurers to remote countries, for the purpose of hostile or friendly intercourse. The savage, in the interiour parts of Africa, or America, is not solicitous to distinguish the boundaries of his own territory, and is equally ignorant and unconcerned with regard to the situation and extent of other regions.

Its infant state.

3. When particular provinces were replenished with inhabitants, the idea of property became more fixed, and various methods of describing it were invented. The limits of countries and their several divisions were marked; their outlines were rudely delineated on flat surfaces of wood or stone; and their position in reference to some mountain, river, or sea-coast, was determined. In this imperfect state geography long remained, until necessity, ambition, curiosity, or interest, led mankind to explore regions distant and unknown. When a communication was opened between countries remote one from another, the intermediate tracts, as well as the places frequented, became objects of general attention.

4.

4. Astronomy, it has been said, originated in India, or Chaldæa, and Geography in Egypt. The situation of those countries is favourable to this conjecture. With regard to geography, it may be observed, that the fertility of the Egyptian soil soon multiplied the family of Misraim, who had settled there some time after the confusion of tongues at Babylon. This territory being of small extent, and on either side bounded by sandy deserts, the value of property in it was soon highly rated, and some method of ascertaining the limits thereof with accuracy became indispensibly requisite. The annual inundations of the Nile carried off the land-marks which were fixed as common boundaries, or buried them under vast quantities of mud left on the soil by the stagnation of the waters. This inconvenience, proving a source of litigation, required a remedy. A standard measure, in process of time, was invented, by the application of which the dimensions of every division of property were fixed; and the situation of every portion of land, it is probable, was adjusted to the course of the Nile. Egypt the place of its origin.

5. The knowledge of practical geometry and of geography led to the invention of maps. For as soon as men became acquainted with the mode of ascertaining territorial property, they contrived a delineation of its figure and proportions on some durable substance for preservation. Those delineations, at first, were merely outlines of provinces or places described. The situation of particular objects was afterwards noted, the courses of rivers were traced, and sea-coasts were represented. To render those sketches more useful and convenient, they were transferred from wood and stone, on which they were originally engraven, to papyrus, to the skins of beasts, and to thin plates of brass. But this improvement was the production of ages. The invention of maps.

6. The antiquity of geography in Egypt may be likewise inferred from the books of Moses the Jewish legislator. This profound politician and historian received his education at the court of Pharaoh; and The antiquity of geography in Egypt.

if we may judge of the state of geography in those times, by the accuracy of his descriptions, we must conclude, that it had then made no inconsiderable progress in that kingdom. When Moses and Joshua divided the land of Canaan among the tribes of Israel, it would seem that the division was effected by means of a map or a delineation of the country, constructed for this purpose (Josh. ch. xviii. 4. &c.)

The date of its origin unknown.

7. The precise date of the origin of geography, and the author of its earliest improvements are alike unknown. Hermes is said to be the first who taught the principles of this science. But who Hermes, Taut, or Mercury was, and when he flourished, we are left to conjecture. If his existence be not a fiction, we must refer it to a very remote period; for in annals of great antiquity, we read of the division of Egypt into provinces, and of expeditions undertaken by its heroes into distant countries; which suppose at least a moderate share of geographical knowledge.

Of Sesostris.

8. Sesostris, if we may rely on the authority of some ancient writers, marched with a powerful army through Syria, Persia, India, to the sea which separates China from Japan. Returning thence by a northern route, he subdued, or rather traversed, Scythia to the Tanais. Having established a colony at Colchis, on the eastern coast of the Euxine, or Black Sea, he penetrated into Europe, and conquered Thrace, where his expedition terminated (Diod. Sic. L. 11.) On his arrival in Egypt, he ordered plans or schemes of the countries he had explored to be delineated on boards, copies of which he distributed among the Egyptians, and transmitted to the Colchi, or Scythians, by whom they were held in the highest estimation. But the date of the reign of Sesostris is very uncertain, and the whole of his transactions have the appearance of fable.

State of Egypt after the expulsion of the Auritæ.

9. After the expulsion of the Auritæ or Shepherd kings, and the retreat of the children of Israel, the Egyptians broke off all intercourse with foreign nations. They secured their harbours against strangers, and raised bulwarks on the frontiers of their kingdom. But this detestation,

tation, or dread of foreigners, gradually abated; their ports were again opened, and commerce was encouraged. From distant regions gold and silver were transported thither, and fine linen was received in exchange. Light-houses were built at the mouths of the Nile, and charts of the sea coast and of the river were engraven on pillars, or on the walls of those towers, for the direction of mariners.

The Egyptians never made great improvement in Geography.

10. Though the Egyptians, in a very early period, were acquainted with the principles of geography, yet they never attempted any profound investigations, nor made any material improvements in this science, besides those already mentioned. The peculiar situation of their country rendered some geographical information essentially necessary; but, having attained what was requisite, they proceeded no farther, and never aimed at perfection. Possessed of genius and invention, with a moderate share of taste and judgment, they made several discoveries and a partial progress in the arts and sciences: but, enslaved by their customs, prejudices, and superstitions, they never acquired an eminent degree of knowledge, nor merited those encomiums which ancient and modern writers have bestowed upon them.

This science improved by the Phœnicians.

11. When Egypt was overstocked with inhabitants, colonies were sent abroad in quest of new settlements. Those adventurers carried along with them the arts and sciences of the mother country, and improved them according to their situation and circumstances. Among the various colonies which migrated from Egypt in different periods, the Phœnicians merit particular attention. Established on the barren coast of Syria, they soon perceived that their only source of opulence and power was commerce. To this they applied with unremitting assiduity, and with astonishing success. Their trade and knowledge in navigation far exceeded those of any ancient state. Enterprising merchants as well as expert navigators, they frequented all the ports in the Mediterranean, and visited the western coasts of Africa and Spain. Having obtained the possession of several harbours near the extremity of

the Red Sea, or Arabian Gulph, they fitted out fleets to collect the perfumes of Arabia, the spices of the east, and the gold of Ophir. To aid them in the prosecution of their commercial plans, and to facilitate their intercourse with distant regions, they formed sketches and composed descriptions of the countries to which they resorted, and planted colonies in places convenient for trade. By these means they contributed to the improvement of geography.

Neglected by the Jews.

12. Though many nations reaped singular advantages from the information and experience of the Phoenicians, yet their neighbours the Jews, restricted by their national character, and by the genius of their religion, derived no benefit from the example of those enterprising people. They despised the arts and sciences, and disdained commercial intercourse with strangers. Solomon, however, a prince of an enlightened mind, and of liberal sentiments, established a correspondence with Hiram king of Tyre, and carried on a lucrative traffic beyond the limits of the Arabian Gulph. His fleets, under the direction of Phoenician pilots, sailed to Tarshish, and to Ophir, ports on the eastern coast of Africa, in the kingdom of Sofala (see Africa), and in the space of three years returned loaded with the most valuable merchandise. But, at the conclusion of Solomon's prosperous reign, the kingdom of Israel was divided, the commercial spirit ceased to operate, intercourse with foreign nations became less frequent, intestine commotions prevailed, neighbouring powers harassed the Israelites on all sides, and at last this devoted nation sunk into servitude.

Promoted by the Carthaginians.

13. Carthage was founded by a Phoenician colony about twelve centuries before the Christian aera. The situation of this famous city on the African coast was favourable for commerce. Accordingly, we find that the Carthaginian republic soon exceeded the parent state in opulence and power, and made the foundations of Rome itself to tremble. Excluded from traffic with India, these people of enterprise ventured beyond the straits of Gades, or Gibraltar, and extended their discoveries, their

their commerce, and their colonies, along the western coasts of Europe and of Africa. Every succeeding voyage increased their wealth and improved their knowledge of geography. But the ambition of Rome involved Carthage in war; and, after a long and doubtful contest, effected her ruin. The voyages of discovery, undertaken by the Phoenicians and their colonies, will be reviewed in a subsequent part of this dissertation.

And by the Colchians.

14. Other colonies of the Egyptians, beside those already mentioned, made some progress in geography. The inhabitants of Colchis, on the borders of the Euxine sea, were commercial people, and had charts and maps engraven on stone and wood, which represented the sea coasts and boundaries of the kingdoms frequented by them, together with the positions of the most remarkable places, and the courses of the most noted rivers in those kingdoms. But whether those plans were originally transmitted from Egypt, or constructed by their own artists, cannot be known.

Not cultivated by the ancient Chaldæans.

15. No nation seems to have cultivated the science of geography in a very early period, the Egyptians and their colonies excepted. The Chaldaeans were led, by a pure and unclouded atmosphere, to the contemplation of the heavenly luminaries, and made various astronomical observations; but we hear nothing of their knowledge of practical geometry during many ages posterior to their settlement in the fertile plains of Assyria. Satisfied with the productions of their own soil, and with the temperature of their climate, they never attempted to penetrate into distant parts of the earth, in quest of a more desirable region: nor were they impelled by the same necessity with the Egyptians to fix the limits of their possessions with precision. The extreme fertility of Egypt increased the value of property, and soon multiplied the number of its inhabitants; and the peculiarity of its situation rendered settlements on its confines impracticable. But Chaldaea was a country of great extent, and surrounded by territories agreeable and fertile. When any particular

lar spot could not with ease maintain its inhabitants, a colony retired to an adjacent province, where all their wants were supplied, and all their wishes gratified. The Chaldæans, therefore, were long unacquainted with remote countries. In process of time, frequent intercourse with strangers excited a spirit of discovery and of conquest. In the reign of Nebuchadnezzar, the Assyrians and Chaldæans explored Syria, Palestine, Egypt, Arabia, and several provinces of Africa. About three centuries before the commencement of the Christian æra, they seem to have acquired some idea of the earth's magnitude. They observed that the celerity of the sun's course is that of a man who can walk 300 stadia (Achill. Tat. ad. Arat. Phænom. c. 18); meaning thereby, that a man who could walk at this rate, would keep pace with the sun, and travel round the earth in 365 days. The measure of the earth's circumference is about 25000 miles. If a man were to travel 300 Roman stadia, or $34\frac{2}{5}$ miles, every twelve hours, he would accomplish 25100 miles in the space of one year: or, if we should suppose the stadia above-mentioned to be Persian measure, he would finish 22703 miles: the former of which computations differs little from the truth.

Nor by the Indians.

16. The ancient Indians studied astronomy, and made very accurate observations, by means of which tables of the celestial motions were calculated, and are still extant. But, though they must have understood the principles of geography, they did not apply to the practical part of this science. They adopted an extravagant idea of the system of the universe, and represented the earth as a flat surface, round which the sun, moon, and stars perpetually revolved.* Other proofs of the imperfection

* The notions of the ancient Hindoo Philosophers concerning the figure and magnitude of the earth are equally singular and absurd. They supposed the terrestrial globe to contain seven deeps or islands, encompassed by seven seas of different liquids, as milk, ghee, sugar juice, wine, &c. the whole land and sea measuring 7,897,752 jowjens. The island of Jummoodeep, according to their geography, is the habitation of human race, and

tion of their geographical knowledge might be produced: and no where does it appear that they composed accurate descriptions and plans even of their own country, or that they were tolerably acquainted with other

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and the superficial contents of it, including water, are 3,978,875 jowjens, of which 417,360 are water and the rest land. In the centre of this island is a golden mountain of a cylindrical form, called Sommeir, the sides and summit of which is paradise or the residence of the blessed. In the four cardinal points, at the extremities of the earth, are four cities encompassed with walls of gold, viz. Jumkote on the east; Lunka on the south; Siddahpore on the west, and Roomuck on the north. From Jumkote the earth's longitude is reckoned westward. The north sides of those cities lie under the equator. The sun goes from Lunka to Roomuck; from Roomuck to Siddahpore; thence to Jumkote, and returns to Lunka. Between every two of those cities are 15 ghurries, i. e. 90 degrees; a degree containing fourteen jowjens, 436 dunds, 2 cubits, and 4 inches. In the northern direction from Lunka to Sommeir, are three ranges of mountains, viz. Heemachel, Heemakoti, and Nekh, each of which extends to the ocean on the east and the west. In the direction from Siddahpore to Sommeir are three mountains, viz. Serungwunt, Sokul, and Neel. Between Jumkote and Sommeir is a mountain called Malwunt, which unites with Nekh and Neel. Between Roomuck and Sommeir is a mountain called Gundahmadun, which likewise unites with Nekh and Neel. From Lunka to Heemachel are 52 degrees of latitude, all of which are inhabited, but the last four thinly, on account of the extreme cold. Kinnerkhund lies between Heemachel and Heemakoti; and to the northward is Hurrykhund.

In *Ayeen Akberry*, or institutes of the emperor Akber, there is a map of Jummoodeep, constructed in a singular form. It is a sort of Orthographic projection of the Northern hemisphere upon the plane of the equator, with parallels of latitude drawn in right lines. Sommeir is the north pole in the centre of the map; and Lunka is a place determined by the intersection of the equator and the meridian of Dehli, which answers to the south extremity of the Maldive islands. The table of longitudes and latitudes of places, inserted in Ayeen Akberry, are extremely inaccurate. Under the Emperours Anastasius and Justin, an Egyptian merchant, commonly called Cosmas Indicopleustes, but whose proper name is unknown, in his travels through several parts of India, became acquainted with the opinions of some eastern philosophers concerning the figure of the earth, and with them asserted that it is an oblong plane 12,000 miles from west to east, and 6000 in breadth, surrounded by a high wall, and that in the extremity of the north is a mountain of great height, round which the sun, moon, and stars move, which occasions the vicissitude of day and night, eclipses and other phenomena.

regions. The Indians, nevertheless, long preceded the Greeks in their maritime character. From the institutes of Menu it appears, that upwards of 1200 years B. C. they navigated the great ocean.

Nor Chinese.

17. Attempts have been lately made to prove that the Chinese were profound astronomers upwards of 4000 years ago. These I have reviewed in a former work (System of Chron.—Hist. of China). But whatever has been asserted with respect to their skill in astronomy, none has alleged that they knew the figure and dimensions of the earth, or the situation and extent of the different kingdoms into which it was anciently divided.

Geography improved,

18. Before I proceed to treat of the progress of geography among the Greeks and Romans, it may be proper to mention the principal means by which this science was improved in ancient as well as in modern times. These are the observations of astronomers, of travellers, and of navigators.

By astronomers.

1. Astronomical observations contributed essentially to the advancement of geographical knowledge. Hipparchus remarked, that attention to the motions of the heavenly bodies, and, in particular, to solar and lunar eclipses, is requisite in the study of geography (Strabo. Geogr. L. 1). The remark is just; but from the rude observations of the first astronomers, no certain conclusions could be deduced. They paved the way, however, to important discoveries concerning the figure and dimensions of the earth, and the relative positions of the constituent parts of its surface. The gradual diminution of terrestrial objects to those who travel in a widely extended plain, or who launch into the ocean, and the circular form of the earth's shadow on the disc of the moon, at the time of an eclipse, suggested the idea of the sphericity of the terrestrial globe. To those who observed the difference of climates, who attended to the courses of the sun and planets, and were acquainted with the means which astronomy made use of in determining their variations, it occurred, that the surface of the earth might be divided after the manner

ner of the celestial sphere. Corresponding circles were accordingly delineated, the earth's circumference was measured, and the longitudes and latitudes of places were ascertained.

2. Geography was likewise improved by journals of travellers. When the spirit of a nation is roused to exert its vigour beyond the limits of its own territories, individuals are disposed to engage in any foreign enterprise of conquest, or of discovery. Some are prompted by curiosity to visit distant regions, some by interest and ambition, and a few perhaps by the desire of mental improvement. The external appearance, the boundaries, and remarkable objects of the countries which the discerning traveller explores, are carefully noted, though the longitudes and latitudes of places he may neither have means nor leisure to determine. In fact it is found, that many important and useful discoveries, relating to foreign nations, have been the result of such observations and inquiries, as will appear in the course of this memoir. At present, it may be sufficient to remark, that it was chiefly owing to the attention and industry of travellers, that the interior parts of some countries were better known in ancient than in modern times. But notwithstanding, as the information derived from this source depends on the judgment and fidelity of the traveller, and of those with whom he converses, it is not surprising that the accounts collected from the journals of individuals are sometimes absurd, inconsistent, and false. When princes undertook expeditions into distant kingdoms, more accurate descriptions of places were procured than could be obtained by the most painful inquiries of private adventurers. Hence it has been observed, that war, which ruins countries, hath proved the occasion of making them known; and that, however inimical it may be to most of the sciences, it contributes to the improvement of geography.

By travellers;

This science has been likewise promoted by the discoveries of navigators. During many ages navigation remained in a very imperfect

And by Navigators.

state. Unacquainted with any sure guide to conduct them through the pathless ocean, the ancients crept along the coast with the utmost circumspection and timidity. The Phoenicians, it is said, were the first navigators who steered their vessels by the direction of the polar star. Aided by this apparently fixed and luminous object, they sometimes ventured at a distance from land, and performed long voyages, which other nations had not the fortitude to undertake. Interesting discoveries were made in the course of those naval expeditions; but the Phoenicians and their colonies alone enjoyed the fruits of them. Before the days of Thales, the Greeks were strangers to the art of navigation. So inconsiderable were their early voyages, that the enterprise of the Argonauts, from the coast of Thessaly to the bottom of the Euxine sea, was an exploit that astonished the gods, immortalized the conductors of it, and raised the paltry bark, in which it was performed, to the rank of a heavenly constellation. When the siege of Troy was planned, the Grecian heroes long deliberated before they adventured to cross the Ægean sea; though the navigation of the Mediterranean in general is less dangerous than that of any part of the ocean. At a later period Herodotus informs us (L. viii. c. 23.) that when the Greeks had assembled a fleet at Aegina, to sail against Xerxes, they did not think it advisable to proceed to Samos, because they believed the distance between these two places to be as great as between Aegina and the pillars of Hercules (Robertson's introd. to the history of America).

The dates of the improvement effected by those means cannot be fixed. It is reasonable, however, to suppose that many ages must have elapsed before geography was established on proper principles.

The geographical knowledge of the Asiatic Greeks.

19. The Asiatic Greeks, who united the learning of the Chaldaean astronomers to that of the geometricians in Egypt, were the first of the ancient nations who treated geography as a science. Various systems and theories concerning the figure and motion of the earth were proposed: but all of them were extremely imperfect; some supposing it to be

a ball, and others a flat surface floating on an immense ocean, by which it was surrounded. This opinion is still prevalent among the inhabitants of the Maldive islands, who farther believe that the earth is secured against the waters by a wall of brass, which the Devil every night attempts to break through, and is prevented only by the return of day (Harris's Coll. of Voyages, v. 1. p. 707). Some of the ancient philosophers mention the globular form of the earth, and its motion round its own axis: But these important hints were not, at an early period, formed into any regular system.

20. It has been already observed, that the Greeks, during the heroic ages, had little acquaintance with geography, and were strangers almost to all the regions beyond the Mediterranean sea. Homer appears to have possessed all the geographical knowledge of those times. He supposed the earth to be encompassed by the sea, and conceived the sun and stars to rise out of the ocean, and to sink into it again. He speaks of the coasts of Africa and of Spain, together with the adjacent islands, as the western boundaries of the world, and concludes the northern regions to be limited by water. Notwithstanding it must be admitted, that, by the accurate observations he made in the course of his travels, he improved the geography of the period in which he flourished. Phoenicia and Egypt were well known to him; and he mentions Arabia and Libya, with the country south of Thebes. The accuracy of his descriptions has stood the test of the most scrupulous inquiries. But, in order to form a proper estimate of his merits as a geographer, his works must be consulted in the original, and not in any translation. Of the Greeks. Homer, B. C. 907.

21. Thales, the author of the Ionian sect, flourished about six centuries before the Christian æra. Having employed many years in study, and in travels through Egypt and different parts of Asia, he acquired a considerable knowledge of astronomy and geometry. The principles of these sciences he applied to geography. He was in some degree ac- Of Thales, B. C. 600.

quainted with the doctrine of eclipses, by means of which the sphericity of the earth and the longitudes of places were more accurately ascertained than by any other method known to the ancients. He was the first astronomer in Greece, who traced the passage of the sun from tropic to tropic. This he must have done by observing the shadow of a gnomon; for the astrolabe and armillary circles are of a later invention. Having determined the time of the equinox by repeated observations, he divided the year into four seasons. He next described five circles or zones on the sphere, viz. the arctic, the summer tropic, the equator, the winter tropic, and the antarctic, placing the zodiac under the three middle circles. Lastly, on a spherical surface he delineated a map, the meridians and parallels of which were circular.

Anaximander. B. C. 580.

22. Anaximander, the disciple and successor of Thales, was the most eminent philosopher of the Ionian school. He made several important discoveries in astronomy and geography, or greatly improved those which had been communicated by his predecessors and contemporaries. He publicly taught geometry, explained the obliquity of the ecliptic, and erected a gnomon, or sun-dial, at Lacedemon. He demonstrated the earth's motion round its own axis in the centre of the universe, and computed its circumference to be 400,000 stadia. He likewise published a geographical table, or chart, on which was delineated the surface of the globe divided into five zones or climates: though the πιναξ or πινακιον of the ancients was sometimes merely an index of names, and not a table, or map, as the word is now generally understood to denote (Strabo, L. I. Herodian. L. VII. Athen. L. XIII).

Xenophanes.

23. Xenophanes, founder of the Eleatic sect, flourished B. C. 540. He maintained that the stars were extinguished every night, and lighted up every morning; that the sun is an inflamed cloud; that eclipses are occasioned by a temporary extinction of the sun; that the moon is eighteen times larger than the earth, and inhabited; that the different climates

climates of the earth are enlightened by their respective suns and moons, &c.

Anaximenes, the disciple of Anaximander, flourished B. C. 450; and taught that the air, or spirit, is the principle of all things; that the earth is an immense plain round which the concave sphere of the heavens, embellished with stars, revolves; that earthquakes are produced by heat or cold, the former of which he called rarity, and the latter condensation. Anaximenes.

Anaxagoras of Clazomene, the successor of Anaximenes, is reputed the first philosopher who added mind to matter. He conceived that the upper regions, which he called Ether, were replete with fire; that the sun is a plate of red hot iron, or stone, larger than Peloponnesus; that the moon is an opake body enlightened by the sun, and habitable; that comets are an assemblage of planetary bodies; that winds are occasioned by a rarefaction of the air; earthquakes by subterraneous air forcing its passage upwards; thunder and lightning by the collision of clouds, &c. Anaxagoras.

Archelaus, the disciple of Anaxagoras, and preceptor of Socrates, maintained that mind, heat, and cold are the principles of all things; that the stars are burning plates; that the sun is the largest of the stars; that all animals were originally produced by warm and moist earth; that the motion of the terrestrial globe is owing to the impulse of wind, &c. Such were the erroneous notions which many of the ancient philosophers entertained concerning the earth and the heavenly bodies: of the measure of their geographical knowledge we are not informed. Archelaus.

Parmenides of Elis, the disciple of Xenophanes and of Anaximander, is said to have maintained the earth's sphericity, together with the division of its surface into five zones, and to have extended the limits of the torrid zone beyond the tropics. Diog. Laertius observes, that he was the first who taught the doctrine of the sphere: but this, I apprehend, must be a mistake, for that doctrine was known to his predecessors. Parmenides, B. C. 500.

Pythagoras, B. C. 520.

24. Pythagoras, who was contemporary to Parmenides, appears to have been acquainted with the annual and diurnal motions of the earth. He taught that the centre of the universe is a globe of fire, and that the planets perform their revolutions in different periods. By various observations, he corrected the geographical schemes and tables of others. But the determination of the quantity of the solar year attributed to him could not have originated so early in Greece. It consisted, we are told, of 365 days, and 59 parts of 22 days. This information he must have imported from Egypt, or from Chaldæa.

The map of Aristagoras, B. C. 480.

25. The geographical delineations of those times, though very rude and inaccurate, were highly esteemed, and consulted on all occasions. To incite Cleomenes, king of Sparta, to undertake the conquest of Asia, Aristagoras, tyrant of Miletus, who reigned B. C. 480, presented him with a table, or flat surface of brass, *Tabella ærea*, on which were described the situation and extent of the several countries to be subjected (Herod. L. v. c. 49), together with the intermediate countries to be traversed. From the passage in the history of Herodotus, to which we refer, it would seem, that the map of Aristagoras contained a plan of the Mediterranean, the regions of Asia Minor to the middle of Persia, the most remarkable rivers to be crossed in that expedition, and the military stations or places of encampment from Sardis to Susa.

Philolaus, and Eudoxus, B. C. 380.

26. Philolaus of Crotona, the disciple of Archytas, and contemporary of Plato, and Eudoxus of Cnidus, who flourished at the same time, maintained the annual and diurnal motion of the earth; but so little versed was the latter in the motions of the planetary orbs, that he described a sphere which referred to a remote period, not knowing that the constellations had changed their places fifteen degrees nearly (System of Chronology, art. Argon. exped.).

Hicetas, B. C. 350.

27. Biography gives no detail concerning the life and opinions of Hicetas of Syracuse. We are informed in general, that, having amassed all the learning of Greece, he taught with great applause in his own country

country, and was considered as the author of the system adopted in modern times by Copernicus (Cicero quaest. acad. IV.).

28. Those improvements notwithstanding, the Greeks had still very inadequate notions of the movements of the heavenly bodies, and of the principles of geography. Herodotus (lib. IV.) ridicules those who believe the earth and the ocean to be spherical. The annual and diurnal motion of the earth was controverted by some philosophers.—Democritus maintained that it is so nicely suspended in equilibrio, that it cannot move to either side: and Cleanthes the stoic charged Aristarchus of Samos with impiety, for teaching publicly the doctrine of the earth's motion. Knowledge of the Greeks imperfect.

The writings of Herodotus, who flourished B. C. 460, contain the earliest known system of geography: but it is confined chiefly to Asia and Africa. If we suppose him acquainted with all the geographical knowledge of his own times, it appears that the Greeks were almost strangers to the western parts of Europe, the maritime tracts excepted. Though this author seems not to entertain a doubt of the existence of a northern ocean, yet he considered the eastern part of the world as bounded by an immense desert utterly unknown. He disbelieves the existence of snow in elevated situations in warm climates; talks of the sun's being vertical in India before mid-day, of the heat in that region being greatest in the morning, &c. His ideas of the extent of Europe, Asia, and Africa, were extremely defective and erroneous. Of him it has been justly said, that "he is a writer of veracity in describing what he saw, "but of credulity in relating what he heard: that his ignorance in mat-"ters of science, and his superstition, induced him to believe many im-"probable stories, but love of truth prevented him from asserting false-"hoods." During several succeeding ages, the Greeks, instead of correcting his errors, perpetuated most of them, save only such as were amended by information communicated by the followers of Alexander.

29. Whatever discoveries have been made by a fortuitous concurrence of circumstances, and whatever the wants or the ingenuity of individuals may Patronage of the great favourable to Geography.

may have prompted them to perform, the progress of science has been always slow, except when it was encouraged by persons of rank and power. This observation shall be instantly illustrated, for we are now to review a period of the literary history of Greece, when geography flourished under the patronage of princes.

Scylax. 30. Scylax, an historian and geographer of Caryanda, a town and island on the coast of Caria, was employed by Darius Hystaspes to trace the course of the river Indus, and to explore the navigation of the Ethiopian sea, from the mouth of that river to the Persian gulph. This enterprise he accomplished in the space of thirty months, and landed at the bottom of the Arabian gulph, near the place where Suez now stands. He composed an account of his travels and voyage, and dedicated the performance to Darius.

A considerable part is extant of another geographical treatise by the same author, inscribed a periplus of the interior coasts of Europe, Asia, and Africa. This work in some passages is mutilated, and in others interpolated; but it merits not the severe censure of Bentley, who pronounces it to be "one of the most corrupted books in the world." In this periplus, Scylax takes his departure from *Gades*, Gibraltar, and proceeds eastward along the coasts of Spain, Gaul, Italy, Illyricum, Greece, Macedonia, Thrace, Scythia, circumnavigates the Euxine sea, slightly surveys the coasts of Asia Minor, Syria, Phœnicia, Egypt, Africa, and finishes his voyage at Mount Abyla, one of the pillars of Hercules. He mentions the nations and tribes who occupied these coasts and the adjacent territories, enumerates the rivers and some of the cities in those parts, and ascertains the course of his navigation by day's sailing, computing every one of which to be 800 stadia, i. e. about 60 miles. Dodwell, in a learned and ingenious dissertation published by Hudson (Minor. Geogr. Vol. I.), contends that the author of this periplus must have been contemporary to Polybius. But the arguments which he offers in support of his opinion are not conclusive. Tyre is called an island

island and a royal city, neither of which designations could have been applied to it, at any time posterior to the reign of Alexander the Great. No notice is taken of the cities of Alexandria, Antiochia, Lysimachia, &c. built by that conqueror, or by his successors. Carthage is spoken of as being then in a flourishing state, which was not the case after the first Punic war. From these, and other internal proofs, it appears highly probable that this periplus is the production of the navigator employed by the Persian monarch.

Observations of Meton, B. C. 432.

31. Upwards of four centuries prior to the Christian æra, important astronomical observations were made in Greece, but were not for sometime applied to geography. Cleostratus reformed the calendar, and composed a cycle for the adjustment of the lunar to the solar year. Meton and Euctemon observed the summer solstice at Athens, on the morning of the 21st day of the Egyptian month, Phamenoth, i. e. June 27. B. C. 432 (Chronol. art. Year). By this observation the latitude of Athens might have been determined: but these astronomers, it would seem, knew not how to improve it.

Socrates, B. C. 430.

32. The maps of Anaximander and his successors were still in estimation among the Greeks. When Alcibiades was glorying in the extent of his territories, Socrates brought a map of the world, desiring him to point out his own dominions, or even the whole region of Attica. (Aelian. Var. hist. L. III. c. 28.). The plan of this map must have been very defective, or the scale of it extremely small, otherwise the general could have easily complied with the latter part of the philosopher's request.

Ephorus, B. C. 360.

33. So inconsiderable was the geographical knowledge of the Greeks during this period, that Ephorus, who was nearly contemporary to Aristotle, supposed Iberia, or Spain, to be a city, and reckoned Cadiz the western limit of the known world: yet Ephorus was esteemed an accurate historian and geographer. He wrote a general history in thirty

books, comprehending a period of 750 years, viz. from the return of the Heraclidæ to the 109th olympiad; and in this history he inserted geographical descriptions of many parts of the terrestrial globe.

Aristotle B. C. 350.

34. Aristotle, founder of the sect of Peripateticks, flourished B. C. 350 years, and was master of all the science of his time. Not satisfied with the information he had received in his own country, he visited foreign regions. Accompanying Alexander in his expedition to Babylon and India, he collected many useful observations relating to Astronomy and Geography. He demonstrated the sphericity of the earth, not only by the arguments of Thales, but likewise by meridian altitudes taken at different distances from the pole. He reckoned that the longitude of the habitable part of the earth, i. e. from the Pillars of Hercules to India, was to its latitude, i. e. from Ethiopia to the extremities of Scythia, as 5 to 3; but he supposed the rest of the world to be destitute of inhabitants, being burnt up by intense heat, or congealed by perpetual cold.

The discoveries of Alexander the Great B. C. 327.

35. The geographical discoveries of his pupil Alexander, king of Macedon, were of greater importance than all those made by the Grecians in any preceding age. Having subdued the western world, that enterprising hero penetrated into the vast continent of India. In extending the limits of his empire to the distant parts of the east, he became acquainted with regions till then unexplored. In this expedition he was accompanied by Diognetes and Baeton, two eminent geometricians, who composed descriptions with delineations of all the countries which he conquered, or through which he marched. The situations and relative distances of cities and rivers, from the Caspian sea to the Indian ocean, were ascertained either by actual measurement, or by observations of the stars. To the attention and industry of Alexander, and of his followers, it is chiefly owing, that any information concerning the ancient state of India has been transmitted to us. Their knowledge, however, of those parts was very limited and defective. Strabo (L. xv. p. 696 and 1020.) relates, that when Alexander found crocodiles in the Hydaspes and Acesines, two great rivers that fall

fall into the Indus, and a species of grain reputed to be peculiar to Egypt, he concluded that there must be a communication between these rivers and the Nile, or rather that the sources of the Nile lay in those parts. Elated by this discovery, he wrote a letter to his mother concerning it, and proposed to equip a fleet to sail thence into Egypt. He was, it is probable, betrayed into this mistake, by an opinion which then prevailed, that the Indus near its source had a communication with the Nile, the Tigris, and the Euphrates. Intent on the establishment of an intercourse between India and the western parts of his empire, and not relying entirely on his own conjecture concerning the source of the Nile, he fitted out a considerable number of vessels, to examine the course of navigation from the Indus to the Persian Gulph. The command of this fleet was entrusted to Nærchus, an officer of great wisdom and enterprise. So inconsiderable, notwithstanding, was the skill of the Greeks in maritime affairs, that seven months were spent in accomplishing a voyage, which may now be performed with ease in the space of ten days. But, trifling as this enterprise may at present appear, Alexander considered it as one of the most glorious exploits of his reign. The stations of the fleet, in its dangerous progress along the coast of Gedrosia, or Macran, are enumerated in the following work (See Gedrosia.).

36. While Alexander was exploring the remote regions of the east, Pytheas of Marseilles, an eminent astronomer and navigator, was employed in making discoveries in the west, and in pointing out new sources of commerce and of wealth to his countrymen. He is severely reprehended by Polybius and Strabo as an inaccurate astronomer and geographer, and censured as a traveller deficient in proper information, or destitute of veracity; but Eratosthenes and Hipparchus applauded his candour, approved his observations, and adopted his opinions. Pytheas, B. C. 320.

In order to determine the latitude of Marseilles, Pytheas observed the sun's altitude at the time of the solstice, by comparing the height of a gnomon with the length of its shadow on a horizontal surface, which he

perceived to be in the proportion of 120 to 41 (Strabo L. 11.). By this observation the latitude of that place was found to be 43° 17′. Modern astronomers have verified the accuracy of Pytheas, and have thence ascertained the diminution of the obliquity of the ecliptic. There is one point of importance in this observation, which, if it could be known, would materially affect the calculations of latitude founded upon it. If the gnomon of Pytheas had no globe, or ball, at top, and terminated in a point, the extremity of the shadow would correspond to the upper limb of the sun's disk, and would occasion a difference equal to the semidiameter of the sun. M. de Louville, A. D. 1694, observed with a quadrant the sun's altitude at Marseilles, at the time of the solstice; and, comparing his observation with that of Pytheas, he found that, in the space of 2000 years, the obliquity of the ecliptic had diminished 20 minutes, or one third of a degree. But, if the gnomon of Pytheas had been globular at top, the diminution would have been 15 minutes more, and would not have corresponded with the observations of modern astronomers (Mem. de l'Acad. des inscript. T. III. and VII.).

Pytheas also undertook, and performed, several voyages of discovery which merit attention. Taking his departure from Marseilles, he sailed along the south coast of Spain. From the strait of Gibraltar, he directed his course northward to the English Channel. Having navigated in the German Ocean six days' sail to the north of Great Britain, he discovered an island called Thule, where the length of the day at the summer solstice is 24 hours nearly. As the latitude of this island must have been at least 66°. 30′, it could have been no other than Iceland, which is situated between 65°. and 67°. north latitude. But this was not the Thule of the Romans (See Geogr. art. Iceland). Pytheas represented the climate of Thule as being neither earth, nor sea, nor air, but a mixture of all three. This singular appearance, no doubt, was occasioned by the frozen vapours which sometimes condense near the surface of that island,

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so as to conceal it almost entirely from the observation of those who approach it; and confirms, instead of invalidating, his report.

That was not the only voyage which Pytheas undertook in the service of his country. He sailed into the Baltic to the mouth of the river Tanais, generally supposed to be the Vistula. In the course of this navigation, he noted the bearings of the coasts, and computed distances by days' sailing, according to the practice of those times. By means of his observations, Eratosthenes and Hipparchus ascertained the latitudes of several places in Spain, Gaul, and Britain, with considerable exactness. Strabo attempts to correct these latitudes; but his substitutions are still more erroneous. He places, for instance, the northern extremity of Britain in 52° N. latitude; and he supposes Ireland to be the northern limit of the globe, and a region uninhabitable, by reason of intense cold. He also admits a communication between the Caspian and the North Sea; though Herodotus and other writers had affirmed the contrary (Herod. L. 1. c. 202). But the geography of Strabo will be reviewed in its proper place.

37. After the death of Alexander the Great, perpetual hostilities, carried on by those who shared the fruits of his conquests, obstructed that friendly intercourse between nations which is propitious to geography. The principles of this science were studied and taught, and the observations of former writers were repeated; but, for some time, no material discoveries were made either in Greece or in Asia.

Patrocles, an officer in the service of Seleucus Nicator king of Syria, visited several parts of India and of Scythia; and published a journal of his travels, in which he copied the observations of Onesicritus, Orthagoras, and others who had accompanied Alexander in his Indian expedition. But this journal and these observations have long ago perished. Of Patrocles, B. C. 300.

38. About the same time, Dicæarchus of Messene, a voluminous writer, composed several treatises on geography, of which three fragments are extant (Minor. geogr. tom. II). The first is inscribed βιος Ελλαδος, de vita Graeciae, Of Dicæarchus, B. C. 300.

Graeciae, i. e. a *Tour through Greece*, containing a description of the situation and relative distances of several cities, together with an account of their inhabitants, and of the intermediate parts of the country. He wrote another performance on the same subject in verse, the design of which was to imprint on the minds of youth the names of places inserted in a geographical map, or table, of his construction. This work is dedicated to Theophrastus, who corrected and improved the map; and, in his last will, ordered it to be reposited in a portico built for that purpose. An hundred and fifty inelegant verses of this work have escaped the ravages of time. His treatise on mountains, if we may judge of it by the specimen which remains, was composed with great discernment; and, as a proof of its merit, it received the approbation of Pliny (Nat. Hist. L. ii. iv), and of Geminus (Elem. Astron. c. xiv).

The school of Alexandria, B. C. 280.

39. In the succeeding age, after a long absence, science again appeared and flourished in Egypt. Alexander the Great had established a school for literature in the city which he built at one of the mouths of the Nile. Preceptors in every department, distinguished by professional abilities, were invited thither by the illustrious founder, and by the Ptolemies his successors: and students resorted from all quarters to a place of such celebrity. Ptolemy Philadelphus, a prince of liberal sentiments and a lover of science, became the patron of learning and of learned men. Having collected an immense library, and held out every encouragement to merit, he roused a spirit of inquiry, and incited in every breast a desire of literary fame. To facilitate the communication between Alexandria and the East Indies, he fixed on Myos-hormos as a proper port on the Red Sea, which he afterwards changed for the haven of Berenice, whence merchandise was conveyed by land to Coptos, a city on the Nile, and thence to Alexandria. In his reign, astronomy and geography in particular, were studied and taught with a degree of success scarcely equalled, certainly not excelled, in any seminary of Greece or of Rome.

Timocharis.

Aristillus and Timochares, eminent astronomers, made variety of important

tant observations; and introduced the method of determining the places of the stars by their longitudes, and latitudes, with respect to the equator. Their observations were corrected and improved by their contemporaries, one of whom was Euclid, a celebrated mathematician. Though his treatise of the sphere related chiefly to the heavenly bodies, yet, in unfolding its theory, and explaining the principles of geometry with precision, he contributed essentially to the improvement of geography. And Euclid, B. C. 280.

40. In other countries, a few were found who aspired to emulate the genius and industry of the Alexandrian school. Among those may be ranked in the first class Aristarchus, an astronomer and geographer of Samos, who invented several kinds of sun-dials, and adopted the doctrine of Philolaus concerning the earth's motion round its axis. But none of his works have been transmitted to us, a treatise of the sun's and moon's magnitude and distance excepted. Aristarchus, B. C. 270.

41. Aratus, of Solis in Cilicia, flourished at the same period, and composed his Phenomena by the command of Antigonus Gonatas, king of Macedon. The materials of this elegant poem were borrowed from two astronomical treatises of Eudoxus, one of which was inscribed *Speculum*, and the other *Phenomena*. Not sufficiently versed in astronomy, Aratus adopted the errors of Eudoxus; and especially, several observations which referred to an earlier period (Art. 26). Many illustrations and corrections of this poem were the productions of succeeding astronomers, viz. Attalus of Rhodes, Hipparchus, Geminus, Theon, &c. From this digression I return to trace the progress of geography in the labours of one of the brightest ornaments of the school of Alexandria. Aratus, B. C. 268.

42. Eratosthenes of Cyrene, an eminent geographer, born B. C. 276, was appointed keeper of the famous Alexandrian library by Ptolemy Evergetes, son of Philadelphus. He composed several geographical works, which, though anciently held in great estimation, have not been preserved. He corrected the maps of Anaximander and Dicæarchus, introduced into a map of his own construction a meridian line, which Eratosthenes, B. C. 240.

passed through Rhodes, Alexandria, Syene, and Meroe, and described a parallel of latitude which extended from Gades, or the Strait of Gibraltar, to the mountains of India, passing through Rhodes, the Bay of Issus, Cilicia, &c. On this parallel the longitude of the known world was often attempted to be measured by succeeding geographers. The oriental part of that map was delineated from the survey of Diognetus and Bæton (Strabo. L. II. p. 69). But the whole of it comprehended little more than the States of Greece, and the dominions of Alexander's successors: for, as Strabo observes, he was not acquainted with the western parts of the world, nor with the regions bounded by the northern ocean. Several gross errors were pointed out by this geographer. Eratosthenes, for instance, supposes Carthage to be 15,000 stadia distant from Alexandria, and Dyarrichium to be 900 stadia from Thermæ on the Ægean Sea; whereas the latter is upwards of 2000, and the former does not exceed 9000. Hipparchus also charged him with many errors and mistakes, and absurdly preferred the map of Anaximander to that which he had constructed. In delineating what was then reckoned the habitable part of the earth's surface, his first step was to fix certain parallels of latitude and longitude. He computed 10,000 stadia from Alexandria to Meroe; from Meroe to the limits of the habitable part of the earth 3,400 stadia, and thence to the equator 8,300. His first parallel, therefore, passed through Taprobane, the second through Meroe, &c. He ascertained the latitudes of places with some precision; but his longitudes are extremely erroneous. The result of his computations, and the errors of his projection, are stated in the following tables, and in a map constructed on his principles.

I. A Table

I. A TABLE *of* LONGITUDES *according to* ERATOSTHENES, *computed on the parallel of* RHODES, *where a degree is reckoned 555 Stadia.*

Distance between meridians computed from maps and Itineraries.	Places traversed by meridians.	Distance of each meridian from Prom. Sacrum, according to Eratosthenes.			Distance according to modern geographers.			Difference or error of Eratosthenes.		
		Stadia.	Degrees. ° ′ ″		°	′	″	°	′	″
0	Prom. Sacrum in Portugal		— — —		—	—	—	—	—	—
3000	Strait of Hercules, near Gades	3000	5	24	19	3	10	—	+2	14	19
	Carthage	- - -	—	—	—	18	52	—	+2	23	40
8,800	Rome	11,800	21	15	40	21	37	24	—0	21	44
	Strait of Sicily	- - -	—	—	—	24	37	—	—3	21	20
	Meroe	- - -	—	—	—	42	41	5	+2	54	3
	Syene	- - -	—	—	—	42	4	43	+3	30	25
	Alexandria	- - -	—	—	—	39	5	24	+5	29	44
13,500	Rhodes	25,300	45	35	8	36	56	9	+8	38	59
	Caria	- - -	—	—	—	—	—	—	—	—	—
	Byzantium	- - -	—	—	—	38	4	54	+7	30	14
	Mouth of the Borysthenes	- - -	—	—	—	41	12	—	+4	23	8
1,300	Pelusium	26,600	47	55	40	41	52	24	+6	3	16
3,700	Issus	30,300	54	35	40	44	40	—	+9	55	40
	Amisus					44	51	—	+9	44	40
1,300	Thapsacus	31,600	56	56	12	48	56	—	+8	—	12
1,700	Mouth of the Phasis	33,300	60	—	—	51	5	—	+8	55	—
600	Dioscurias	33,900	61	4	51	50	52	—	+10	12	51
7,700	Caspian gates	41,000	74	57	17	61	5	—	+13	52	17
14,000	Source of the Indus	55,600	100	10	48	82	52	—	+19	18	48
	Middle of Patalene					77	7	—	+23	3	48
14,400	Mouth of the Ganges	70,000	126	7	34	99	23	45	+26	43	49
1,600	Thinæ	71,600	129	—	32	106	27	—	+22	33	22
3,000	Prom. Coliacum	74,600	134	24	51	85	35	—	+48	49	51

II. A TABLE *of* LATITUDES *according to* ERATOSTHENES, 700 *Stadia reckoned in a degree of a great circle.*

Distance of parallels ascertained by observations, &c.	Places traversed by parallels.	Distance of each parallel from the Equator.			Distance according to modern geography.			Difference, or error of Eratosthenes.		
Stadia.		Stadia.	Degrees. °	′	″	°	′	″	°	′	″
0	Equator	—	—	—	—	—	—	—	—	—	—
8,300	Limit of the habitable part of the earth.—*Taprobane.*	8,300	11	51	25	—	—	—	—	—	—
3,400	Meroe South extremity of India.	11,700	18 16	7 42	— 51	18 7	17 56	— —	—0 +8	10 46	— 51
5,000	Tropick Syene	16,700	23	51	15	23 24	27 5	50 23	+0 —0	23 14	25 8
5,000	Alexandria in Egypt	21,700	31	—	—	31	13	5	—0	13	5
3,750	Strait of Hercules ——Sicily South extremity of Attica Rhodes Issus Caspian gates Thinæ	25,450	36	21	25	36 38 37 36 36 35 11	— 12 35 28 42 40 47	— — — 30 30 — —	+0 —1 —1 —0 —0 +0 +24	21 51 13 7 21 41 34	25 35 35 5 5 25 25
400	Athens	25,850	36	55	42	37	58	1	—1	2	19
2,600	Hellespont Amisus Hyrcanian Sea Bactriana Scythia	28,450	40	38	34	40	10	—	+0	28	34
350	Smope Bactria	28,800	41	8	34	41 36	4 40	40 —	+0 +4	3 28	54 34
1,000	Byzantium North limit of Bactriana	29,800	42	34	17	41	1	21	+1	32	50
338	Marseilles	30,138	43	3	15	43	17	49	—0	14	34
4,662	Mouth of the Borysthenes South part of Palus Mœotides	34,800	49	2	51	46	39	—	+2	33	51
7,900	North extremity of Britain	42,700	61	—	—	58	37	—	+2	23	—
3,600	Thule, Iceland, N. point of	46,300	66	8	34	66	8	34	—	—	—

43. But the name of Eratosthenes is rendered immortal by his determination of the earth's circumference, which he ascertained by the actual measurement of a segment of one of its great circles. This segment extended from Alexandria to Syene. The circles of the celestial sphere corresponding to those of the terrestrial globe, it follows, that a degree of the former holds the same proportion to the circumference of a great circle in the heavens, as a degree of the latter to the circumference of the earth, and that the measurement of the one must determine the magnitude of the other. If, therefore, the distance between any two places, under the same meridian on the surface of the earth, be known, and, at the same time, if an arch of a great circle in the heavens, between the zeniths or vertical points of those places, be measured, the quantity of one degree may be easily found. On this principle, the various attempts which have been made to ascertain the earth's circumference have proceeded.

By means of gnomons, Eratosthenes found that Syene, near a cataract of the Nile, was situated in the meridian of Alexandria, and under the tropic of Cancer; so that, at the time of the summer solstice, the sun was vertical to that place, and the gnomon had no shadow at midday. Again, having measured the angle of the shadow of a gnomon at Alexandria on the day of the solstice, he found the distance of the sun from the zenith to be 7° 12′, or $\frac{1}{50}$ part of the circumference of a great circle. He then computed the distance between Alexandria and Syene, which corresponded to the arch in the heavens already determined to be 5000 stadia. Lastly, multiplying 5000 stadia by 50, he obtained a product of 250,000 stadia as the measure of the earth's circumference; the 360th part of which, or one degree, consists of $694\frac{4}{9}$ stadia, every stadium containing $547\frac{4}{10}$ English feet. One degree, therefore, according to the computation of Eratosthenes, contains 71,24 English miles, which exceeds the truth. If 700 stadia were reckoned to a degree, and 252,000 in the circumference, the error would be increased.

Several sources of error may be traced in this operation of Eratosthenes. 1. It has been found that Syene is about 2° 59′ 19″ of east longitude from the meridian of Alexandria; so that an arch of a meridian, intercepted by the parallels of these places, is less than an arch extending to their zeniths. 2. Eratosthenes might have erred in measuring the distance between Syene and Alexandria. 3. It does not appear by his observations, that Syene is situated directly under the tropic; for a gnomon has no shadow, though the centre of the sun be some minutes distant from the zenith. 4. In measuring the length of the shadow at Alexandria, the distance of the sun from the zenith, and, consequently, the distance between those cities was probably diminished 15 or 16 minutes, unless the gnomon had terminated in a globe at top (Art. 36). The latitude of Alexandria is now observed to be 31° 13′ 5″. If we suppose Syene to be placed directly under the tropic, and if the obliquity of the ecliptic at that time was 23° 51′, the arch between those places would exceed the computation of Eratosthenes. But these errors would have diminished the error in the circumference. For, if a deduction be made for the difference of meridians, and if, instead of 5000, we reckon 4889 stadia, we shall have 666 stadia, or 69,05 English miles to a degree, which almost coincides with the determination of modern astronomers.

Other attempts.

44. The resolution of this problem is of the greatest use in geography, and especially in the construction of maps. Many attempts, therefore, have been made to that effect. Four are mentioned by Ptolemy, beside that of Eratosthenes already considered (Geogr. L. I. and VII). The result of the first is 180,000 stadia; of the second, 240,000; of the third, 300,000; and of the fourth, 400,000. To reconcile these computations, it has been observed, that the stadia of the ancients differed as the English, French, and German miles do at present. But, admitting this to be the case, those differences cannot easily be known. Ptolemy reckons the earth's circumference to be 180,000 stadia. The Persian writers, who

who were well acquainted with Ptolemy's meaning, inform us that 180,000 stadia were equal to 800 parasangs. A parasang consisted of $22\frac{1}{2}$ stadia, every one of which contained 400 great cubits. The great cubit of the Egyptians, to which all other measures were anciently referred, is still extant on the Nilometer of Egypt, and consists of 1.824 English foot. Hence it appears, that the circumference of the earth, according to Ptolemy, is 24873 miles, and one degree, or 500 stadia, is equal to 69.10 miles. 400 great cubits multiplied by 1.824 foot, are equal to 729.6 feet, or one stadium: $22\frac{1}{2}$ stadia are equal to 16416 feet, or one parasang; and 8000 parasangs = 131328000 feet = 24873 miles, $\frac{1}{360}$ of which is 69.10 miles, or one degree.

If, with Herodotus (Hist. L. II), and Strabo (Geogr. L. XI), we suppose a parasang to consist of 30 stadia, and every stadium to contain 300 great, or 400 common cubits, the result will be the same as before, the common cubit being 1.368 foot.

In the latitude of Alexandria, which is 31° nearly, a degree, by actual measurement, is found to contain 68.82 miles, which differs inconsiderably from the foregoing computations. But, if a parasang be supposed to consist of 30 stadia, and every stadium to contain 400 great cubits, the earth's circumference, as stated by Ptolemy, would amount to 33164 miles, and one degree to 92 nearly.

If Ptolemy made use of the stadium of 400 great cubits, while Posidonius reckoned by the stadium of 400 common cubits, the disagreement between their computations would be merely in appearance; for 180,000 stadia of 729.6 feet are equal to 240,000 stadia of 547.2 feet; and 500 of the former to $666\frac{2}{3}$ of the latter.

But, according to the stadium mentioned by Pliny, which consisted of 125 Roman paces, or 605 English feet, a degree of 666 stadia would contain 76.4 miles. The two remaining computations of the earth's circumference may be adjusted in the same manner, viz. by supposing a difference between the stadia, the one of which might have contained

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437, and the other 328 feet. But no data can be found by means of which these measures may be fixed with precision.

Archimedes, B. C. 220.

45. While Eratosthenes was employed in the measurement of a degree at Alexandria, Archimedes, the greatest geometrician in ancient times, published his celebrated theorem, which has been of essential service in geography, and has rendered the projection of the sphere an operation of ease and accuracy. He also constructed an orrery or Planetarium, by which the revolutions of the sun and planets were represented (Claudian. epigr. Lait. xi. 5): but of this and some other inventions attributed to him, no circumstantial account remains.

Agatharcides, B. C. 180.

Agatharcides, in the early part of his life contemporary to Eratosthenes and Archimedes, was president of the Alexandrian Library, B. C. 177, and is always mentioned with respect by Diodorus, Strabo, and Pliny. His work on the Erythrean, or Red Sea, is preserved in an extract of Photius, and almost copied by Diodorus; and Strabo follows it in what relates to Ethiopia, the countries south of Egypt, and the western coast of Arabia. His account of the west coast of the Red Sea commences at Arsinoe, or Suez, and goes down to Ptolemais, the Rasageeg of Bruce, in 18° 7′ N. latitude nearly, that is, about 350 miles above the Strait of Babelmandel. He takes notice of Myos-hormus in 27° N. latitude, and of Sinus Immundus, or Foul Bay, at the bottom of which was Berenice, which, however, he does not mention for a reason unknown. From Arsinoe this author crosses the Gulph of Suez, proceeds eastward to Phenicon in the Elanitic Gulph, runs down the coast to Sabea, and gives the first genuine account of Arabia that is extant. Sabea, the modern Yemen, was, in those days, the centre of commerce between Europe and Asia. The most valuable commodities of that country, and of India, viz. myrrh, frankincense, balsam, cinnamon, cassia, &c. purchased in its ports by fleets from Egypt, were conveyed to Alexandria, and thence throughout Europe. About 50 years after Agatharcides

Agatharcides flourished, Mnesias published a description of the then known world.

46. Hitherto geographers determined the distances of places from the equator by the length of the shadow of a gnomon at the time of the equinox. They observed, for instance, that the length of the shadow was to the gnomon at Rome in the proportion of 8 to 9; at Alexandria of 3 to 5; at Athens of 3 to 4; at Rhodes of 5 to 7; at Carthage of 7 to 11, &c. But Hipparchus, having made many important astronomical observations in Bythinia, Rhodes, and Alexandria, proposed, by means of these, to ascertain the longitudes and latitudes of places. However, though he pointed out the mode of applying the principles of astronomy to the illustration of geography more clearly than any of his predecessors had done, he made no considerable progress in the practical part of this science. It has been sometimes found, that the principles of the most important improvements have been known long before the proper application of them. Latitudes, at an early period, were fixed with some degree of precision; but the determination of longitudes by observations of eclipses is of a later date. Hipparchus, however, applied his principles to one very useful purpose, viz. the projection of the sphere on a plain surface. His treatise on this subject was approven of and consulted by Ptolemy (Fabr. Bibl. Græc. L. III. c. 5). His commentary, more properly his criticism, upon the phnomena of Aratus is extant. It was first published by Victorius, A. D. 1561; and afterwards by Petavius, in 1630, with a Latin translation. To correct the errors of Eratosthenes, he composed a work in several books, which is partially commended by Strabo (Geogr. L. I. and II.). Reckoning his computation of the earth's circumference to be deficient, he added 25,000 stadia, making one degree 764 stadia nearly: which, instead of correcting, encreased the error of Eratosthenes. Hipparchus, B. C. 140.

47. Other Asiatic Greeks, in the same age, applied to the illustration of this science, but made no discoveries of importance. Artemidorus Artemidorus, B. C. 100.

of Ephesus, contemporary to Agatharcides of Cnidus an historian and geographer, flourished in the 169th olympiad, *i. e.* about a century before the Christian æra, and wrote a copious periplus of the Mediterranean, in eleven books, beginning at the pillars of Hercules. This work was epitomised by Marcian, who supplied several deficiencies, corrected some errors, and added a supplement, in two books, which he inscribed *Periplus maris externi.* A fragment of the survey of Artemidorus remains, containing a detail of places, and of distances in stadia, along the coasts of Bythinia, Paphlagonia, and part of Pontus, beginning at Jovis Urii templum on the Thracian Bosphorus, and proceeding eastward. It appears from many references and quotations in Diodorus Siculus, Strabo, and Pliny, that Artemidorus treated also of other parts of the earth; and, if we may judge by the favourable opinion of those writers, who preferred his works before all others on the same subject, the loss of them is much to be regretted. He reckoned the distance between the pillars of Hercules and the mouth of the Ganges, on the parallel described by Eratosthenes, to be 8578 Roman miles; but this computation is very erroneous. The distance between these places, measured on the parallel of 36° N. latitude, is found not to exceed 95 degrees, *i. e.* 5310 English miles, assigning 56.9 miles to every degree of longitude. It may be proper to add, that Artemidorus the geographer is not the same with the author of the *Oneirocritica* who flourished in the reign of Adrian.

Scymnus, B. C. 90.

48. Scymnus of Chios composed a geographical work, which he dedicated to Nicomedes third king of Bythinia. Having carefully consulted the writings of former geographers, he adopted the principles of Eratosthenes, availing himself, at the same time, of information derived from other sources. Of that work 977 Iambic verses are extant (Min. Geogr. T. II.). After an introduction of 137 verses, he proceeds to a superficial description of the maritime parts of Italy, Greece, and the adjacent islands, Macedonia, Thrace, Moesia, Sarmatia, and the coasts of the Euxine. He enumerates

enumerates the several tribes and colonies settled in those parts, together with the chief towns which they inhabited. In the perusal of this specimen, nothing occurs to excite in the mind of the reader any painful emotion on account of the fate of the work itself.

49. Theodosius, a native of Tripoli, and the contemporary of Cicero, in cultivating with singular success that part of geometry which relates to the doctrine of the sphere, may be considered as an improver of the principles of geography. His work on this subject is still in estimation. During the middle age, it was translated into Arabick, and thence into Latin at Venice, A. D. 1518. The Arabick version being very inaccurate and defective, John Pena, Regius Professor of Astronomy in Paris, published a correct edition of the original, A. D. 1557, with a Latin translation. But the most approved edition was published by Dr Barrow, in 1675, who demonstrated the propositions in a concise and easy manner. This work was highly esteemed by Ptolemy and other ancient writers. Theodosius, B. C. 50.

50. The improvement of the Romans in geographical knowledge was nearly in proportion to the success of their arms. Thirst of power and of glory incited that warlike people to procure such information concerning every state, as might be necessary to facilitate or secure the conquest of it. But, in the history of this republic, scarcely one event occurs that marks attention to discovery any further than as it was favourable to their ambitious views. When they had subjected the most fertile and best cultivated regions of the known world, they devised means of establishing an easy and expeditious intercourse with the most distant parts of their dominions. They formed highways of the most solid materials, erected military stations at proper intervals, made accurate surveys of their provinces, and constructed maps to regulate the marches of the legions, and to furnish their generals with sufficient information concerning the countries which were occasionally to be the scenes of their operations. State of geography among the Romans.

Itinerary charts.

On the itinerary charts, or maps, the military stations were traced, and the distance of one station from another was ascertained with a degree of precision. But of these delineations which were formed for a particular expedition, and usually disappeared when the design of their construction was answered, little information has been transmitted to posterity. *Irenicus*, in the fifteenth century, is the first modern writer who mentions a copy of an ancient itinerary provincial table, which he calls, *Charta provincialis, itineraria et militaris.* This chart was discovered by Conradus Celtes in a library at Spires, and is now known by the title of *Peutinger's tables.* Beatus Rhenanus, the contemporary of Irenicus, calls it *Itinerarium Augustanum*, having seen it at Augsburg, in the cabinet of Peutinger, secretary of state to the Emperor; and he refers it to the time of the last Emperors. At the death of Peutinger, this table was not found in his cabinet. Two fragments, or parts of the first segment, of two ancient copies, were discovered: and these Velser published at Venice, A. D. 1591, with a preface and annotations. In the year 1595, an entire copy was found, which was engraven and published, A. D. 1598. Bertius republished it, A. D. 1619, in his edition of Ptolemy's geography. Another edition of this table appeared at Augsburg under the auspicies of John Muller. This edition, though less correct than either of the former, was inserted by Janson in his atlas, A. D. 1659, and is now generally known. No account of the original could be procured until the year 1715, when the library of Desiderius Peutinger, a descendant of Conrad's, was exposed to sale. It was then purchased by Prince Eugene; after whose death, it was deposited in the imperial library at Vienna. M. de Lisle intended to correct the engraved copies, but was prevented by death. Several parts of this table being unintelligible, a revision of it appeared to be necessary. Francis Christopher Von Scheyb published an edition of it, A. D. 1753, in twelve copper plates, more accurate than any of the preceding. The original is supposed to have been constructed in the reign of Theodosius

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the Great, and does not exist: what is commonly so called being only a copy of a date posterior to the destruction of the Roman Empire, as appears from the names of places, which are written in Lombard characters. This copy is perhaps the chart which the author of the *Annales Colmarienses*, described in 1265. It is delineated on parchment of a foot in breadth, and about 22 feet in length; comprehending an extent of 74° longitude, and 18°—22° latitude. Its length so far exceeding its breadth, the countries included are represented in no just proportion; and the names of places are not inserted according to their position, except in the case of cities through which the roads pass. The names of mountains, rivers, and seas occur in it, but no regard is paid to their position, form, or dimensions. It is evident, therefore, that this chart was intended to be a representation of the distances of places on the great roads of the Roman Empire. The original table, and several of the copies, abound in faults; many names are corrupted; many letters which denote the distances are altered or omitted; some of the roads are marked twice, some of them are reversed, and others are either interrupted, or sketched so confusedly as to render them useless.

From the original of that table, an itinerary was compiled by the order of Antoninus Pius, or Caracalla, containing the names and distances of the Roman stations on the military ways throughout the Empire. By subsequent alterations and additions, it was accommodated to the daily stages and mansions of soldiers in their marches. The miles in this itinerary seem to be horizontal, and such as have no allowance for inequalities on the surface. But neither the numbers nor names specified in this work are altogether correct, owing principally to the inaccuracy of continuators and transcribers. It was first printed at Paris by H. Stephens, A. D. 1512, 12mo. from a MSS. in the possession of Longolius. Dr Talbot of Norwich, an eminent antiquary, in 1547 illustrated it with various readings and notes, printed at the end of the third volume of Leland's

itinerary. Surita, who republished it, thinks it cannot be dated earlier than Severus or Caracalla, nor much latter than Constantine. Burton's edition of this work appeared in 1658. Dr Gale, Dean of York, fixed the English names of the stations with tolerable exactness. But the most approved edition is that of Wesseling, with various readings and copious notes, published at Amsterdam, A. D. 1735, 4to. Though the numbers in many instances appear to be erroneous, it has on trial been found, that the proportion of miles in this itinerary to English computed miles, is as 4 to 3; and sometimes the ratio may be as 5 to 4, or less.

The geography of Ravenna is a copy of the ancient itineraries. It has preserved 1000 names before unknown to geography. The description of Asia given in it furnishes much information on the ancient geography of Persia and India; and that of Egypt is minute and wholly new. Its details of Mauritania, Spain, and Great Britain, are the more valuable, in consequence of our being deprived of the Roman chart of those countries.

Their surveys of distant countries.

51. The Greeks had little acquaintance with those parts of the earth which lie at a distance from the Mediterranean and the Euxine sea. They were almost entire strangers to the several countries which now form the most considerable kingdoms in Europe. They had neither pervaded Spain, nor visited Gaul, nor penetrated into Great Britain. The immense region now called Germany, was anciently inaccessible, or thinly inhabited by tribes of fierce Barbarians. The sea-coasts alone had been transiently surveyed. But the Romans, aiming at universal dominion, undertook and effected the conquest of those countries. Having subdued Spain and Gaul, and extended their frontiers to the banks of the Elbe, they carried their victorious arms across the British Channel, and left monuments of their triumphs in the remote parts of this island. From surveys taken in the course of these expeditions, the Roman historians derived the best accounts which have been transmitted to

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us concerning the ancient state of those provinces. These observations it may be proper to illustrate by an induction of particulars.

52. Before the time of Scipio Africanus Minor, no voyages of discovery were undertaken by the Romans. That great man, equally ambitious of knowledge and of fame, retained in his service several philosophers and historians, some of whom were employed to procure information about those provinces, which had been hitherto superficially surveyed. Having contracted a friendship with Polybius of Megalopolis in Arcadia, a profound and accurate historian, who had been sent by the Achaeans an ambassador to Rome, he gave him the command of a small fleet for the purpose of exploring the sea coasts of Gaul, Spain, and Africa. Not long after Polybius had accomplished this expedition, he departed from Rome to trace Hannibal's route across the Pyrenees and the Alps. He composed, it is probable, memoirs of his voyages and travels for the use of Scipio, though none of these was ever published. An opinion prevailed in his days, that the torrid zone was uninhabitable. In the confutation of this mistaken notion, he wrote a treatise which is now lost. But the northern regions of Europe were still unexplored; and so imperfect was Polybius's knowledge of Africa, that he could not determine whether it were united to the great southern continent, or encompassed by sea, a fact not easily to be accounted for, as Herodotus had long before asserted that Africa was a peninsula, and that a small fleet of Phoenician vessels, by the command of Necho, had sailed round it (Art. 69). Polybius, B. C. 150.

53. Two centuries had elapsed since Eratosthenes had measured a degree of a great circle on the earth's surface. Some suspicions of his accuracy having arisen, other geographers thought it expedient to repeat the operation. The most successful attempt of this nature was made by Posidonius of Apamæa in Syria, the disciple of Panætius, who flourished about half a century before the Christian æra. Distinguished as an astronomer, Posidonius, B. C. 50.

tronomer and a geographer, he resided sometime at Rhodes, where he taught several branches of science. Afterward, B. C. 51, he was invited to Rome by Pompey, with whom he had kept an epistolary correspondence. He made variety of observations and experiments concerning the height of the atmosphere, the flux and reflux of the sea, the distance of the sun and moon, &c. some of which have been verified in modern times. Not satisfied with the measure of the earth's circumference, as determined by Eratosthenes, he undertook to correct the error of that geographer. Eratosthenes had measured a segment of the meridian by means of gnomons erected at different places. Posidonius preferred another method of measuring a great circle. He observed that when the star Canopus became visible in the horizon of Rhodes, it was elevated 7° 30′ above the horizon of Alexandria. These two places he supposed to be situate under the same meridian; and, from the reckonings of navigators, he computed the distance to be 5000 stadia. Seven degrees thirty minutes being $\frac{1}{48}$ of 360°, or of a large circle on the sphere, he determined the circumference of the earth to be 5000 stadia multiplied by 48, or 240,000 stadia, and one degree to be $666\frac{2}{3}$ stadia. Every stadium being 547.2 English feet according to the Greek standard, a degree of $666\frac{2}{3}$ stadia will be found to contain 69.10 miles.

In this operation, the accuracy of the result notwithstanding, Posidonius proceeded on doubtful principles. 1. He did not ascertain with precision the distance between Rhodes and Alexandria, but relied on the vague computations of others. 2. He determined the arch between the zeniths of these places to be 7° 30′, though it does not exceed 5° $15\frac{1}{2}$′; the latitude of the former being 36° 28′ 30″, and that of the latter 31° 13′ 5″. 3. He supposed Rhodes and Alexandria to lie under the same meridian; whereas Alexandria is 29° 55′ 30″, and Rhodes 27° 53′ 45″ east longitude from the Royal Observatory at Greenwich.

Strabo

Strabo informs us, that Eratosthenes computed the distance between those places to be 3750 stadia, and that Posidonius adopted this computation. $3750+48=180{,}000$ stadia; and $1^\circ=500$. Posidonius is quoted as the first geographer who assigned 500 stadia to a degree; and in this he is followed by Marinus and Ptolemy. Every stadium consisting of 729.6 feet, 500 stadia are equal to 69.10 miles (Art. 44.).

54. When Rome had arrived at the meridian of her greatness, several of the Emperors patronized learned men, and cultivated some of the sciences with success. Among these Julius Cæsar was distinguished no less by the superiority of his abilities than by the intenseness of his application. Versed in the principles of geography, he soon acquired a competent knowledge of the practical part of this science. He made accurate surveys of the countries through which he marched, and carefully noted the relative situations and distances of places, together with every thing remarkable that occurred in his progress. He collected and compared various accounts of regions which he had not visited, and illustrated many parts of the empire. His expedition into Great Britain, though chiefly designed for conquest, was rendered subservient to the improvement of geography. By means of clepsydræ, or water clocks, he observed the difference between the length of the day in Britain and in Gaul, at the same time of the year, and found that the summer nights are considerably shorter in the former than in the latter of those provinces. Astronomy and geography are intimately connected; and he who is acquainted with the principles of the one can be no stranger to those of the other. Cæsar made some proficiency in both. As an astronomer he reformed the calendar, and ordained proper regulations for the adjustment of the civil year to the course of the sun (System of Chron. part I. art. Year.).

Julius Cæsar, B. C. 50.

A general survey of the Roman Empire.

55. Under the consulate of Julius Cæsar and of M. Anthony, B. C. 44, a general survey of the Roman empire was decreed by the senate. The persons employed in this important and laborious undertaking, were Zenodoxus, Theodotus, and Polyclitus; to every one of whom a different division of the empire was assigned. They were appointed to construct maps, and to compose descriptions of all the countries to which they had access. Zenodoxus finished his tour through the east in the space of 14 years, 5 months, and 9 days. Theodotus completed his survey of the northern regions in 20 years, 8 months, and 10 days. Polyclitus returned from the south in 25 years, 1 month, and 10 days (Æthici Cosmographia, p. 107.). This survey is by Pliny ascribed to Marcus Vipsanius Agrippa, son-in-law and prime minister to Augustus, because it was finished, B. C. 19, when this minister was in the plenitude of his power. From the reports of these geographers, a plan of the empire was formed, containing the distances of places, with descriptions both of the sea-coasts and of the interiour parts of the countries; and was placed under a grand portico in the middle of the city for public inspection*. But this delineation did not extend to regions very remote, or to the south of the equator. It included about two-thirds of Europe, one third part of Africa, and one fourth of Asia. The immense regions beyond the Ganges were still unexplored. The torrid zone was supposed to be uninhabitable;

* Such representations were afterwards put up in public apartments of academies for the information of youth. Accordingly, Eumenius, in his oration about rebuilding the schools at Autun, enumerating geography among the various branches of learning taught there, insists largely on the maps delineated in the porticos, which the governor of Lyonnois might recollect. One of those pillars on which an itinerary of places, with the distances, was engraven, was found at Autun in the beginning of the present century, but soon after was buried in the foundation of a nunnery. A particular account of it was given by the Journalists of Trevoux, A. D. 1706.

uninhabitable; and of the southern temperate zone nothing certain, or of importance, was known.

56. Learning flourished under the patronage of Augustus. Above all those who applied to the study of geography during his reign, Strabo, the circumstances of whose life biography has not recorded, stands distinguished by his industry and success. This geographer rectified some of the mistakes, and corrected many of the errors of his time; but was not exempt from prejudice. He exploded the generally received opinion, that the earth is an extended plain, whose boundary supports the canopy of heaven, and he denied that it is surrounded by water according to the idea of ancient philosophers. He was acquainted both with the spherical figure of the earth and the obliquity of the ecliptic: but he omitted to make the proper inferences and deductions. The observations and discoveries of Pytheas he rejected as fabulous, in the persuasion that the northern regions, as well as the torrid zone, were uninhabitable. "The ships that "trade from the ports of Gaul, says he, never venture beyond Ireland; "as all places in a higher latitude are rendered inaccessible by eternal "frost." He was careful, however, to acquire information concerning those countries of which he proposed to treat. He visited Egypt, part of Asia, Greece, Italy, and the adjacent islands. He travelled from Armenia to Sardinia, and from the Euxine Sea to Ethiopia. His knowledge of places, which he did not survey, was derived from the reports of travellers, and from the geographical works at that time held in estimation. Strabo, A. D. 19.

From the materials which he had collected with great pains and labour, he composed a system of geography in 17 books. In that valuable work, he has preserved many historical details concerning the origin of nations, tribes, and cities. His plan is natural; his style is simple but nervous, and suited to the gravity of history. In the selection of his materials, he appears to have been sufficiently attentive and careful, unbiassed by party, impartial in the investigation of truth, and severe in detecting and exposing error. Notwithstanding, he is not always exempt from misconception.

ception. As his information concerning the situation of places and their relative distances, is drawn from various sources, he is sometimes inconsistent: and, no astronomer himself, he, in several instances, mistakes and misrepresents the astronomical observations of others. His work was never illustrated by maps, and it is now difficult to construct one from his description. This, however, has been attempted (See Atlas.).

The first and second books of his geography, being introductory, unfold the reasons which induced him to undertake this work, *viz.* the imperfection and inaccuracy of other performances on the same subject. Applauding Homer as a geographer, he inquires into the merits of Eratosthenes. In some instances he vindicates this author from the censures of Hipparchus: but in others his animadversions are severe and unmerited. In one passage he asserts, that the latitude of the known world does not far exceed 30,000 stadia, which is 8000 less than the computation of Eratosthenes and his followers. In the course of his illustrations, he observes, that Borysthenes is situated under the same parallel with Great Britain, though the former be nearly four degrees south of the latter. Marseilles and Byzantium he places in the same latitude, and reckons the distance between Great Britain and Marseilles equal to that between Byzantium and Borysthenes: but both of these positions are erroneous. He proceeds to review the earth's longitude from the strait of Gibraltar to the river Indus, on a parallel, which he traces from the sources of the Indus through Caspiæ Pylæ, across the Euphrates to Ostium Canobium of the Nile, thence to Carthage and the Pillars of Hercules. The extent of this line he does not admit to be 70,800 stadia, as Eratosthenes had conjectured. That geographer had corrected an error in maps formerly constructed, and had reduced the eastern parts of Asia from their northern inclination. Hipparchus censures the introduction of an alteration so material, founded on the doubtful authority of Patrocles, in opposition to the opinion of Daimachus, Megasthenes, and other eminent writers.

writers. But, Strabo, in this instance, justifies Eratosthenes, and represents Patrocles as a well informed historian and geographer.

Book III. contains a description of Spain, Gaul, Great Britain, and Ireland, inaccurate and superficial.

The three following books exhibit a survey of Italy, Sicily, and the adjacent islands. The story of Æneas's arrival into Italy is narrated. The crater of Vesuvius is mentioned; but no account is given of its eruptions. Ætna is described as a volcanic mountain: and Sicily, together with the islands along the coast of Italy, is supposed to have been originally united to the continent, and, in some remote period, separated from it by an earthquake or volcanic explosion.

Book VII. comprehends a very defective and fabulous description of Germany, and an account of Illyricum, Thrace, Macedonia, more circumstantial and credible. The latter part of this book is lost.

In Books VIII. IX. and X. Greece, and the islands in the Archipelago, are described with some degree of accuracy.

The four following books treat of Asia Minor on the north side of Mount Taurus. The countries round the Euxine Sea were thoroughly known to the ancients.

Books XV. and XVI. include Asia beyond Taurus, India, Persia, Syria, and Arabia. The Caspian Sea is represented as a gulph of the northern ocean, on the vague authority of some travellers who had surveyed its western coast to the mouth of the river Volga, and in opposition to the decided opinion of Herodotus and Diodorus Siculus.

The last book contains a description of Egypt and of the African Provinces, bounded on the north by the Mediterranean. The interior parts of Africa were unknown to Strabo.

Such are the outlines of this celebrated work, which time has not greatly impaired during the lapse of eighteen centuries. All its defects and errors notwithstanding, it is the best geographical production of antiquity.

This

This author reckons 700 stadia in a degree of latitude, and 500 in a degree of longitude; and describes the several divisions of the globe as he found them delineated on a plain surface; the parallels of longitude and meridian lines being always at equal distances, and intersecting each other at right angles at Rhodes. In the following tables, the longitudes and latitudes of several remarkable places are estimated according to his idea, and a map is constructed on those data; whence it will appear that, in some respects, he has increased the error of former geographers.

I. A TABLE *of* LATITUDES *according to* STRABO, 700 *Stadia reckoned in a degree.*

Distance between parallels.	Places traversed by parallels of longitude.	Distance from the Equator, according to Strabo.		Distance according to the moderns.	Error in the computation of Strabo.
Stadia.		Stadia.	Degrees. ° ′ ″	Degrees. ° ′ ″	Degrees. ° ′ ″
0	Equator	———	— — —	— — —	— — —
8,800	Limit of the habitable part of the earth.—*Taprobane.*	8,800	12 34 17	— — —	— — —
3,000	Meroe	— — —	— — —	18 17 —	—1 15 35
		11,800	16 51 25	— — —	— — —
	South extremity of India	— — —	— — —	7 56 —	+8 55 25
5,000	Tropick	— — —	— — —	23 27 50	+0 32 10
		16,800	24 — —	— — —	— — —
	Syene	— — —	— — —	24 5 23	—0 5 23
4,000	South point of the great Syrtis	— — —	— — —	30 10 20	—0 27 29
		20,800	29 42 51	— — —	— — —
	Heroopolis in Egypt	— — —	— — —	30 17 —	—0 34 9
1,000	Alexandria in Egypt	21,800	31 8 34	31 13 5	—0 4 31
900	Carthage	22,700	32 25 42	36 51 —	—4 25 18
2,000	Tenar. prom. in Pelopon.	24,700	35 17 8	33 36 —	—1 18 52
	Prom. Sacr. in Iberia	— — —	— — —	37 2 —	—0 44 52
	Strait of Hercules	— — —	— — —	36 — —	+0 17 8
	———Sicily	— — —	— — —	38 12 —	—1 54 52
700	Prom. Sunium in Attica	25,400	36 17 8	37 35 —	—1 17 52
	Rhodes	— — —	— — —	36 28 30	—0 11 22
	Issus	— — —	— — —	36 42 30	—0 25 22
	Caspiæ Portæ	— — —	— — —	35 40 —	+0 37 8
	Thinæ	— — —	— — —	11 47 —	+24 30 8
2,300	Marseilles	27,700	39 34 17	43 17 49	—3 43 32
	Byzantium	— — —	— — —	41 1 27	+2 15 41
2,600	Sinope	30,300	43 17 8	41 4 40	+2 12 28
	Amisus	— — —	— — —	40 10 —	+3 7 8
1,200	South point of Great Britain	31,500	45 — —	51 — —	—6 — —
1,200	Middle of Britain	32,700	46 42 51	54 — —	—7 17 9
1,300	North extremity of Britain	34,000	48 34 17	58 37 —	—10 2 43
100	Mouth of the Borysthenes	34,100	48 42 51	46 39 —	+2 3 51
2,600	South point of Ireland	36,700	52 25 42	52 25 42	— — —
1,400	Limit of the habitable part of the earth.	38,100	54 25 42	— — —	— — —
				— — —	— — —

II. A TABLE *of* LONGITUDES *according to* STRABO, 500 *Stadia in a Degree.*

Distance between meridians.	Places traversed by meridians.	Distance of every meridian from Prom. Sacrum, according to Strabo.		Distance according to the Moderns.		Difference or error of Strabo.	
Stadia.		Stadia.	Degrees. ° ′ ″	Degrees. ° ′ ″		Degrees. ° ′ ″	
0	Prom. Sacrum in Iberia		— — —	— — —		— — —	
2000	Strait of Hercules	2,000	4 — —	3 10 —		+- 50 —	
5,860	Marseilles	7,860	15 34 19	14 31 54		+1 2 25	
4,540	Carthage	12,400	24 8 —	18 52 —		+5 16 —	
850	Rome	13,250	26 30 —	21 37 24		+4 52 36	
750	Strait of Sicily	14,000	28 — —	24 37 —		+3 23 —	
1000	C. Pachynum in Sicily	15,000	30 — —	24 3 3		+5 56 57	
4,500	Criu-Metopon in Crete	19,500	39 — —	32 1 36		+6 58 24	
1,400	C. Sunium in Attica	20,900	41 48 —	32 49 —		+8 59 —	
600	C. Samonium in Crete	21,500	43 — —	35 — —		+8 — —	
1000	Meroe	— — —	— — —	42 41 5		+2 18 15	
	Syene	— — —	— — —	42 4 43		+2 55 17	
	Alexandria	— — —	— — —	39 5 24		+5 54 36	
		22,500	45 — —	— — —		— — —	
	Rhodes	— — —	— — —	36 56 9		+8 3 51	
	Byzantium	— — —	— — —	38 4 54		+6 55 6	
	Mouth of the Borysthenes	— — —	— — —	41 12 —		+3 48 0	
5000	Issus	27,500	55 — —	44 40 —		+10 20 —	
1,300	Thapsacus	28,800	57 36 —	48 56 —		+8 40 —	
700	Dioscurias	29,500	59 — —	50 52 —		+8 8 —	
8000	Caspiae portae	37,500	75 — —	61 5 —		+14 55 —	
14,000	Sources of the Indus	51,500	103 — —	82 52 —		+20 8 —	
	Middle of Patalene			77 7 —		+25 53 —	
13,500	Mouth of the Ganges	65,000	130 — —	99 23 45		+30 36 15	
2,500	Thinæ	67,500	135 — —	106 27 —		+28 33 —	
2,500	C. Coliacum	70,000	140 — —	85 35 0		+54 25 —	

57. Dionysius, surnamed Periegetes, of Charax in Susiana, flourished in the same period. Having adopted the principles of Eratosthenes, he composed a geographical description of the known parts of the earth in 1186 elegant verses. But this treatise, though ingenious, contains many errors; some of which, no doubt, ought to be attributed to the ignorance of the age in which it was written, and some to the inadvertency of the author. It is very defective in arrangement. From an abuse of poetical license, Dionysius frequently shifts from one subject to another, between which no connection can be traced. Sometimes he passes in silence, or slightly touches, an argument that merits ample discussion, and dwells on circumstances, which with propriety might have been omitted. This classical work, however, is not destitute of useful and curious information. The author's knowledge of Asia is not so extensive as that of Ptolemy; but he gives a tolerable account of its northern provinces. A description of Europe occupies 300 verses of his poem. Italy, Greece, and several adjacent countries are treated with precision and elegance: but his review of the northern regions is superficial and inaccurate. Having collected with care all that was worthy of observation, in the course of his expedition to Armenia by the command of Augustus, his survey of the western parts of Asia is the most valuable part of his work. It may be proper to add, that the edition of this poem published at Oxford, A. D. 1704, by Edward Wells, though useful to students, does not convey to the reader an idea of the state of geography in the time of Dionysius, as many particulars unknown to the ancients are inserted in that edition.—In Geogr. Minor. tom. III. the original poem is published by Hudson, with the judicious commentary of Eustathius. Dionysius, A. D. 1.

58. While the Roman power preserved its influence over the distant provinces of the empire, geography was cultivated with success. Frequent surveys were made, itinerary charts were delineated, and descriptions were composed for the service of the state. Private curiosity, finding easy ac- State of geography under the first Emperors.

cess to the remotest regions, pervaded every part; and, by variety of observations, increased the general stock of geographical knowledge: while those, who by their situation were prevented from undertaking foreign expeditions, collected and compared the reports of travellers, and illustrated facts of importance as they occurred.

During the reigns of the first Roman Emperors some discoveries were made, and several geographers of eminence appeared. Under Augustus trade and navigation flourished. Drusus, the father of Claudius, navigated the northern ocean. Claudius invaded Great Britain: and, in his reign, the Roman fleet sailed within sight of Thule. The island of Taprobane was discovered; and its inhabitants, informed of the extent and greatness of the Emperor's power, sent ambassadors to Rome to solicit his friendship. Trajan descended to the mouths of the Tigris and Euphrates, at the bottom of the Persian gulph, and proposed to establish an intercourse with the Indians by sea. The Parthian, and afterwards the Persian, Empire, equally formidable to the eastern nations and the Romans, was a barrier to the conquest of both. The Parthians prevented the Romans from traffic in Upper Asia and China, and obliged them to receive from their hands the merchandise of the East. Marcus Aurelius Antoninus, desirous of establishing a correspondence with the Chinese, A.D. 166, sent an ambassador to Ouon-ti the Emperor; and from that time the Romans carried on some commerce with that nation, chiefly through Persia. In the sixth century, having entered into an alliance with the Tartars, they received the commodities of China from those people more conveniently than from the Persians who were jealous of this commerce. At Constantinople this treaty was concluded in the reign of Justin II. The Khan of Tartary then resided on Echtag, or Altai, a mountain to the eastward of the river Irtish. The Arabs, in the eight century, having subdued Persia, availed themselves of its sources of wealth, and traded to China; while the Romans by sea continued a correspondence with that empire.

empire. Notwithstanding these and other efforts of Roman avarice and ambition to explore and subdue the habitable globe, it does not appear that they or any European nation were acquainted with the geography of the oriental parts of Asia, which, according to the accounts of those times, were inhabited by the Scythians, the Seres, and the Sinæ. The Scythians possessed the extensive regions now called Siberia and Western Tartary: the Seres occupied Eastern Tartary, and the northern parts of China: and the Sinæ were planted in Siam, Laos, and Cochin-china.

59. In the reign of Claudius, *i. e.* about the middle of the first century of the Christain æra, Pomponius Mela, a native of Spain, applied with success to the study of geography, and published a description of Europe, Asia, and Africa, in three books. In books I. and II. having fixed the limits of those great divisions of the globe, and reckoned the most considerable nations by whom they were inhabited, he treats of the countries which extend along the coasts of the Mediterranean, beginning with Mauritania. In the third book, he takes a superficial view of the regions bounded by the exteriour ocean, beginning with Spain, proceeding northward to the extremities of Scythia, returning thence along the coasts of Asia, and of Africa, and terminating his survey at the Strait of Gibraltar. His account of the provinces adjacent to the Mediterranean is concise and accurate: but his review of the northern parts of Europe, and of the most distant regions of Asia, is defective and fabulous. He supposes a communication between the Caspian Sea and the Northern Ocean. In an early period, the Indians found means of transporting their goods from the former to the latter, chiefly on the rivers, beginning at the mouth of the Volga. This, it is probable, gave birth to the opinion, which, during the course of several ages, generally prevailed.

Pomponius Mela, A. D. 50.

60. Isidorus of Charax in Susiana, appeared in the reign of Tiberius, and composed an itinerary, a fragment of which remains, relating to the distances of the most remarkable places within the limits of the Parthian

Isidorus, A. D. 50.

empire, part of which, at that time, comprehended eighteen kingdoms. Itineraries of this sort, with stations, were anciently in use among the Persians: from them the Parthians adopted the idea: and from the Parthians it descended to the Romans. Isidorus computed the intervals between the several stations by schœni, one of which consisted of five Roman miles, or forty stadia. Five miles of 4840 feet each mile, are equal to 4583 English miles nearly; and 40 stadia of 547.2 feet amount to 4146 miles: which of these computations ought to be preferred, we are left to conjecture. A small part of this work, inscribed Stathmoi Parthikoi, *i. e.* Stationes, sive mansiones, Parthicæ, may be found in Minor. Geogr. T. 11. published by Hudson. In this fragment, the stations from Zeugma of Comagene in Syria to Alexandriopolis are traced as follows: From Zeugma along the banks of the Euphrates to Seleucia are computed 171 schœni,—thence ascending the Silla to Apollonia 33 schœni,—thence north-east through Caspiæ Pylæ to Choarena 189,—to Comisena 58.—to Hyrcanea 60,—to Astabena 60,—to Parthiena 25,—to Margiana 57,—Southward to Aria 30,—to Anabon 55,—to Alexandriopolis on the river Archotus in Arachosia 120,—in all, 858 schœni, or about 3900 English miles.

Pliny, A. D. 50.

61. In the same period flourished C. Secundus Plinius, the most learned and laborious writer of that age. Though he made no discoveries in geography, yet, with incredible industry, he collected all that was then known concerning the relative situations and distances of places, and published an elegant epitome of the whole in Lib. III. IV. and V. of his Natural History. But these books ought to be read with caution, as the author's information is not always derived from the purest sources. Sometimes he confided too implicitly in the relations and reports of others; and sometimes he formed an immature judgment with respect to what was submitted to his own review. Hence many errors and mistakes occur in this valuable work.

Pliny

Pliny computes a degree of latitude to be 700 stadia, every stadium being 625 Roman feet. A Roman foot is 11.616 inches English measure. A degree, therefore, according to this author's computation, contains 80.21 English miles. If we should suppose the stadium, by which he reckoned, to be 300 great cubits, or 547.2 feet, a degree of 700 stadia would be equal to $72\frac{1}{2}$ English miles nearly. His computation of a degree.

62. For the space of several ages posterior to the time of Pliny, no geographer of eminence appeared. Arrian of Nicomedia, a disciple of Epictetus, and afterwards Roman governor of Cappadocia, composed several geographical treatises, some fragments of which are extant. In his book *De Rebus Indicis*, he has illustrated the periplus of Nearchus. In the original account of that voyage, the intervals of stations, and the relative distances of places on the coast, were computed by days' sailing. Afterwards, on a principle not known, they were converted into stadia and into miles. To gratify the curiosity of those who are unacquainted with this periplus, I have inserted in the following work a detail of the places and their distances, according to the arrangement and computation of Arrian (See Asia Minor.). Arrian, A. D. 130.

For the information of Adrian, this author wrote a relation of an accurate survey he had made of the territories contiguous to the Euxine Sea, from Trebizonde to Sebastiopolis. In this itinerary he enumerates the most remarkable places in succession, ascertains their relative distances in stadia, and mentions the tribes which occupied the adjacent countries. To complete his survey of the Euxine, on the authority of authentic journals, he describes the coast from Byzantium to Trebizonde; from Sebastiopolis to Cimmerian Bosphorus, and thence to Byzantium. The sums of the distances between these places are as follows: From Trebizonde to Dioscurias, or Sebastiopolis, 2260 stadia: from Sebastiopolis to Cimmerian Bosphorus 2800; thence to Byzantium 8250; from Byzantium to fluv: Parthenius, the common boundary of Bythinia Paphlagonia,

gonia, 2270; and thence to Trebizonde, 1805; in all, 17385, or about 1800 miles, the circuit of the Euxine Sea, computed by those who navigate along its coasts. A more particular account of this periplus were unnecessary, as M. D'Anville has nearly transcribed it, in his correct maps of Asia Minor, and of the eastern division of the Roman Empire.

The last geographical production ascribed to Arrian, but composed by a Greek merchant, A. D. 50, is a periplus, or survey of the coasts of the Arabic Gulph and Indian Ocean. Having consulted the writings of Ptolemy, and being informed of discoveries made by the Alexandrian traders, the author corrects several former errors and mistakes. This survey begins at Myos-hormos, an Egyptian sea-port at the extremity of the gulph, and proceeds along the African coast to Rhapta, two degrees beyond the tropic, and the boundary of geographical knowledge in those parts: though Ptolemy mentions Prasum prom. a few degrees southward. The coasts of Arabia and of India are likewise described as far as they had been explored. The composer of this periplus was thoroughly versed in the trade and commerce of different nations: but his account of India is very superficial, though he appears to have been acquainted with the great division of the peninsula, viz. Indostan Proper, comprehending the northern provinces, and Decan including those to the southward, the common boundary of which he fixes to be the river Nerbudda. *Thinæ* he represents as a great inland city of Sinae, situate under Ursa Minor, and of difficult access. The immense region beyond the Ganges, a few sea-port towns excepted, was still unknown to the western world.

Pausanias, A. D. 150.

63. Pausanias of Caesarea in Cappadocia, a learned grammarian, flourished in the middle of the second century, and was intimately acquainted with the state of geography in his own time. He travelled into Greece, Macedonia, Italy, Palestine, and the western parts of Asia; diligently remarked whatever was worthy of observation in the countries which he visited, and published a detail of his travels. Extreme credulity

lity and superstition notwithstanding, his works contained variety of curious and important information. His elaborate description of Greece in ten books is extant; but his account of Syria, Phoenicia, &c. together with his remarks on the history of those countries, has long ago perished; a loss the more to be regretted, that several ancient writers have mentioned this performance in terms of high approbation.

64. Marinus of Tyre, who preceded Ptolemy, distinguished himself by his knowledge of geography: but he seems to have been a credulous and inaccurate writer. He determined *Prassum* prom. in Ethiopia, and Thule, to be the extreme points of latitude in the known world. Supposing the former to be in 24° S. lat. and the latter to be in 63° N. lat. he made the whole extent of latitude 87 degrees, or 43,500 stadia. At first he reckoned the longitude from the Fortunate Islands to Cattigara 15 hours, or 225 degrees; but on a review of this computation, he reduced his numbers to 180°, or 12 hours. The distance assigned by him between the Fortunate Islands and Hierapolis was nearly correct: but from Hierapolis to the capital of Serica he computed 124° and 480 stadia, or 62,480 stadia, allowing 500 stadia to every degree. In fixing the positions and relative distances of places, together with the boundaries of countries, he often erred. The plan and arrangement of his work was as imperfect as his computations were inaccurate. In one volume he described the latitude of places by climates, or parallels; and in another the longitudes by horary intervals, or meridians. Hence it became a difficult and tedious operation by his tables to ascertain the extent of provinces, or the situation of particular places. But this work was soon obscured by the superiour merit of the geography of Ptolemy. Marinus.

65. It has been observed that Hipparchus exposed the errors of preceding writers, and was corrected by Posidonius, who was revised and censured by Marinus; and that Marinus was condemned by Ptolemy, who excelled his predecessors and greatly improved the science of geography. Ptolemy, A. D. 160.

graphy. This eminent author flourished in the middle of the second century of the Christian æra, and taught astronomy at Alexandria in Egypt. His system of geography is universally known and admired. The materials of this valuable work were drawn from various sources, all of which were not of equal authority. He diligently compared the principles and observations of Eratosthenes, Hipparchus, and other astronomers; examined the proportions of the gnomon to its shadow at the times of the equinoxes and solstices, the calculations founded on the differences of climates, Roman itineraries, &c.; and consulted the reports of travellers and navigators. Materials collected with so much care he digested into one regular system; expressing the positions of places, not by climates and horary intervals, but by degrees of longitude and latitude, according to the idea of Hipparchus.

His computation of the earth's circumference hath been already considered, (Art. 44.). A material improvement in geography attributed to him is the method of determining longitudes by means of lunar eclipses. The ancients hitherto ascertained the distances of places from the first meridian, either by actual measurement, or by the computations of travellers. Of these modes the former one was very limited, and the latter extremely precarious. Though the observations made by Ptolemy for the determination of longitudes were not sufficiently accurate, yet the principle on which he proceeded is just, and has been adopted by modern geographers.

The apparent motion of the sun is from east to west. When the centre of this luminary is in the meridian of any given place, it is mid-day to all under that meridian; places situate eastward will have mid-day sooner, and those to the west will have it later, in the proportion of their respective distances from the given meridian, at the rate of four minutes of time for every degree of longitude, and of one hour for 15 degrees, the sun in 24 hours completing an entire revolution or 360 degrees.

degrees. The longitude, therefore, of two places being given, the difference in time of the sun's arrival at the meridian of those places may be easily found; and *v. v.* If one place, for instance, be 15 degrees of longitude to the east of another, the sun will come to the meridian of the former one hour sooner than to the meridian of the latter; that is to say, it will be 12 o'clock at the one place when it is 11 at the other.

Further, the earth's motion round its own axis being from west to east, the obscuration of the lunar disk, at the time of an eclipse, will be soonest observed in places of greatest eastern longitude, and latter as the longitude diminishes, in the proportion of one hour for every 15 degrees. If then a lunar eclipse be observed, by means of well regulated clocks, in two places of different longitudes, the times of corresponding observations will be found to differ in proportion to the longitudes of those places.

not sufficiently accurate.

This method, however, of determining the longitudes of places is liable to error: which must be attributed—to the inequalities on the eastern side of the moon's disk where eclipses commence,—to the variation of the penumbra according to the density of the air,—to the figure of the earth's atmosphere, which is seldom spherical,—to the appearance sometimes of an atmosphere about the moon,—to a difference in the optics of observers,—to the imperfection of instruments,—and perhaps to other causes not yet known.

Maps.

Notwithstanding, by these observations chiefly, Ptolemy ascertained the longitudes and latitudes of many places with some degree of accuracy. But most of his positions were determined by doubtful computations: and when false, or uncertain, premises are admitted to be true, the conclusions drawn from them must be erroneous. Maps for Ptolemy's geography were constructed by Agathodæmon, who flourished in the fifth century. These were inserted in some of the oldest printed

editions of this work, were afterwards copied by Mercator, and republished by Wetstein at Amsterdam, A. D. 1730.

Many of this geographer's errors and mistakes were owing to the ignorance of the age in which he lived, and some to his own inattention and credulity. For mistakes originating from the imperfection of his information he is no more to be condemned, than modern geographers are to be censured for giving no better account of New Holland, and of other islands in the great western ocean, which were little known prior to the recent discoveries of the celebrated Cooke. But errors relating to parts of the world explored by the Greeks and the Romans are less excusable, and must be ascribed to his implicit admission of the observations and surveys of others. Admitting to be genuine many doubtful or false computations and measurements, he stamped them with his own authority; and succeeding geographers copied them from one generation to another, down to the conclusion of the last century.

To assist the reader in forming an estimate of the state of geography in Ptolemy's age, it may be proper to point out some of the defects and errors of this geographer, which were owing chiefly to the imperfection of science in his time. His knowledge of the northern regions of Europe was limited; for he mentions no country nor ocean beyond 63° north latitude. The immense tract divided by the ancients into Sarmatia and Scythia, now called Great Tartary, was then unknown; and no part of Scandinavia had been explored. He was equally unacquainted with the southern part of Africa, which he represents as increasing in breadth beyond the equator, and extending to the southern pole. Though navigators had formerly doubled the Cape of Good Hope, yet Ptolemy seems to be ignorant of this fact, or to reject it as unworthy of credit. In his detail of Asia beyond Taurus he is frequently mistaken. Sometimes he speaks of cities as then in existence, which had long before perished. Sometimes he gives the ancient and recent designations of the same

same place, as if these related to different places; and at other times he is not careful to distinguish cities then in ruin from those of the same name subsisting in a different situation. He mentions Persepolis among the cities of Persia, though this city had been destroyed by Alexander the Great, and was never rebuilt. In a few instances he alters the positions of places, and contradicts in one passage what he had asserted in another.

His general delineation of the form of the Indian Continent is extremely erroneous. He supposes the peninsule to stretch from *Sinus Barygazenus*, or Gulph of Cambay, eastward with a gentle declination to the south, instead of extending from north to south nearly. Notwithstanding, from Barygazenum to the place marked *Locus unde solvunt in Chrysen navigantes*, i. e. from Baroach to the mouth of the river Godavery, or perhaps the Mahanada, on the Coromandel coast, the distance measured along the shore does not differ much from what it is in reality. That coast, at the same time, is marked with several inlets and promontories, nearly resembling in their position those which actually exist on it. Hence it appears, that Ptolemy's account of those places was composed from the imperfect journals of navigators, who noted the time of sailing from one place to another, and on what side the land lay when they shaped their course across a bay, or doubled a promontory.

He reckons the great mouth of the Ganges, now called Hoogly, 145° 41′ east longitude from the Fortunate Islands: whereas its true longitude does not exceed 102 degrees. All the countries beyond the Indus, together with the sea coasts and adjacent islands, are erroneously delineated and described. He supposes Sinæ to lie 175 degrees eastward of the first meridian, though the longitude of the western frontier of China amounts to 115 degrees only. He places the metropolis of Sinæ in 3° S. latitude, instead of 17° N. latitude, if he refers to Sin-hoa in Cochin-

china; or 32° if to Nan-king; or 34° if to Si-ngan-fou; or 40° if to Peking. Beyond the Indian Ocean, which he calls *Sinus Magnus*, he conceives a vast continent to extend westward to Prassum Prom. on the coast of Africa, in 15° S. latitude.

In his description of the interiour parts of the known world, several material errors have been pointed out by modern geographers, and others might be added.

1. Byzantium, or Constantinople, he places in 43° N. latitude, relying on the observations of Eratosthenes and Hipparchus, who found that the proportion of the gnomon to its shadow at Byzantium was as 120 to 42 nearly (Strabo, L. II.). Arabian geographers, who copied Ptolemy, increased instead of correcting this error.—Ulug Beig makes the latitude of that city 45 degrees: but, by recent observations, it is determined to be 41° 1′ 10″; so that the error of Ptolemy amounts to 138, and that of the Indian geographer to 276 English miles.

2. The latitude of ancient Carthage, according to Ptolemy, is 32° 2I′, which supposes that the length of the gnomon is to its equinoctial shadow, as II to 7 (Strabo, L. II.). But modern astronomers have observed the latitude of that place to be 36° 5I′; difference 4° 3I′, or 3II miles nearly. This error, which removed the African coast too far southward, remained unnoticed until the commencement of the last century, when it was observed, and in some measure corrected, by Snellius (Gassendi, Op. T. VI.).

3. The longitude of the Mediterranean Sea, from the Straits of Gibraltar to Alexandria ad Issum, now Scanderoon, at the bottom of the Bay of Issus, is estimated by Ptolemy to be 6I½ degrees, which greatly exceeds the truth. This mistake, perhaps, originated from the measurements of the intermediate distances recorded by Strabo, Marinus, &c. the sum of which Strabo computes to be between 26500 and 27000 stadia. Reckoning 400 stadia in a degree of longitude on the parallel of

36 degrees (Ptol. L. I. c. 2.), the whole extent will be equal to 65° 15′ i. e. 4° 15′ more than the computation of Ptolemy. Polybius supposes the length of the Mediterranean to be 2,440 Roman, or 2,237 English miles nearly, which are equal to 39° 56′, allowing 56 miles to every degree. This estimate of Polybius is surprisingly accurate; for the distance between Scanderoon and the Strait of Gibraltar has been recently found less than 42°. But, in the construction of maps, geographers adopted the errors as well as improvements of Ptolemy. One of the first attempts to rectify the mistake concerning the extent of the Mediterranean, was made under the auspices of M. de Peiresk, A. D. 1635. The longitude between Marseilles and Aleppo had been hitherto computed 45 degrees: but, by observations of a lunar eclipse made at those places, on the 27th day of August, the difference between the longitudes of Aleppo and Marseilles was found to amount only to 30 degrees. By this correction, the longitude of the Mediterranean was reduced 15 degrees, or one hour. In the year 1694, M. Chazelles, by observations of the eclipses of Jupiter's satellites, found that Alexandretta, or Scanderoon, is situated 34° east of the meridian of Paris: thence to Gibraltar are 8 degrees nearly: so that the whole distance is 42°, or 2352 miles. In the beginning of the last century, M. de Lisle, an accurate French geographer, constructed a map of the Mediterranean, the basis of which was partly those observations, and partly actual measurement. Thence he concluded the longitude between the extreme points to be 860 French leagues, or 2552 English Miles = $45\frac{1}{2}$ degrees nearly. But recent observations have verified the computation of Chazelles, and ascertained the distance between Issus and the Strait of Gibraltar to be 41° 34′, or 2330 miles nearly.

4. Ptolemy reckons the extent of the Caspian Sea from west to east to be about $23\frac{1}{2}$ degrees, equal to 1153 miles on the parallel of 45°, which he supposes to pass through the middle of that sea. Though this

error

error was corrected in part by the Arabian geographers, who ascribed to the Caspian an oval form whose greatest extension was from north to south, yet, after the revival of letters in Europe, the computation of Ptolemy was adopted. Jenkinson, or Olearius, among the moderns, first conceived the proper figure and position of this sea; and a survey made by the command of Peter the Great, confirmed his opinion. The reader, desirous of particular information on this subject, may consult an ingenious memoir composed by M. de Lisle, and published in *Memoir. de L'Acad. A. D.* 1721, accompanied by a chart representing the forms which geographers have assigned to the Caspian in different periods. It may be necessary to mention, that the mistake of Ptolemy and the ancients with regard to the figure of this sea, materially affected the geography of India. For, being informed that many nations were established beyond it, and supposing its adjacent coast to be of small extent, they placed those nations eastward in succession; thereby distorting that part of Asia which lies under the parallels of 40° and 45°, insomuch that Seres and Sinæ were removed upwards of 600 leagues farther to the east than their proper situation.

The accuracy of Ptolemy in fixing the latitudes of many places, and his inaccuracy in ascertaining their longitudes, will appear from the following tables.

I. A TABLE *of* LATITUDES *according to* PTOLEMY.

Stadia, 700 in a degree.	Places traversed by parallels of longitude.	Distance from the Equator according to Ptolemy.	Distance from the Equator according to modern geographers.	Difference.
		° ′ ″	° ′ ″	° ′ ″
2,100	Thinæ	3 — —S.	11 47 —N.	—14 47 —
9,450	C. Comara	13 30 —	8 1 30	+5 28 30
11,492	Meroe	16 25 —	18 17 —	—1 42 —
16,683	Syene	23 50 —	24 5 23	—0 15 23
16,700	Tropic	23 51 15	23 27 50	+0 23 25
21,000	Heroopolis	30 — —	30 17 —	—0 17 —
21,700	Alexandria	31 — —	31 13 5	—0 13 5
22,633	Carthage	32 20 —	36 51 —	—4 31 —
24,033	C. Tenarum	34 20 —	36 36 —	—2 16 —
25,200	Strait of Hercules	36 — —	36 — —	— — —
25,200	Rhodes	36 — —	36 28 30	—0 28 30
25,492	Issus	36 25 —	36 35 27	—0 10 27
25,725	C. Sunium	36 45 —	37 35 —	—0 50 —
25,900	Caspiæ Portæ	37 — —	35 40 —	+1 20 —
26,075	Athens	37 15 —	37 58 —	—0 43 —
26,775	Prom. Sacrum in Iberia	38 15 —	37 2 54	+1 12 6
26,833	Strait of Sicily	38 20 —	38 12 —	+0 8 —
28,000	Bactria	40 — —	36 40 —	+3 20 —
30,159	Marseilles	43 5 —	43 17 45	—0 12 45
30,159	Byzantium	43 5 —	41 1 27	+2 3 33
30,159	Amisus	43 5 —	40 10 —	+2 55 —
30,800	Sinope	44 — —	41 4 40	+2 55 20
33,950	Mouth of the Borysthenes	48 30 —	46 39 —	+1 51 —
36,050	Mouth of the Seine	51 30 —	49 30 —	+2 — —
39,375	Mouth of the Albis	56 15 —	54 — —	+2 15 —
40,250	South extremity of Hibernia	57 30 —	52 25 42	+5 4 18
43,167	North Cape of Britain	61 40 —	58 37 —	+3 3 —
44,100	Thule, Shetland	63 — —	60 9 —	+2 51 —

II. A TABLE *of* LONGITUDES *according to* PTOLEMY, *reckoned from the Meridian of Prom. Sacrum, in Iberia,* 11° 29′ 54″ *W. of Paris, and* 9° 9′ 54″ *W. of Greenwich.*

Stadia, 500 in a degree	Places traversed by Meridians.	Degrees according to Ptolemy.	Degrees according to modern geographers.	Difference, or error of Ptolemy.
		° ′ ″	° ′ ″	° ′ ″
0	Prom. Sacrum	— — —	— — —	— — —
2,500	Strait of Hercules	5 — —	3 10 —	+1 50 —
11,000	Marseilles	22 — —	14 31 54	+7 28 6
16,166	Carthage	32 20 —	18 52 —	+13 28 —
17,083	Rome	34 10 —	21 37 24	+12 32 36
18,583	Strait of Sicily	37 10 —	24 37 —	+12 33 —
18,750	C. Pachynum, in Sicily	37 30 —	24 3 3	+13 26 57
23,750	C. Tenarum	47 30 —	30 54 —	+16 36 —
25,041	Criu-Metopon, in Crete	50 5 —	31 1 36	+18 3 24
25,541	C. Sunium, in Attica	51 5 —	32 44 —	+18 16 —
26,500	C. Samonium, in Crete	53 — —	35 — —	+18 — —
26,750	Byzantium	53 30 —	38 4 54	+15 25 6
27,500	Mouth of the Borysthenes	55 — —	41 12 —	+13 48 —
28,000	Rhodes	56 — —	36 56 9	+19 3 51
29,000	Alexandria	58 — —	39 5 24	+18 54 36
29,500	Meroe	59 — —	41 41 5	+16 18 55
39,760	Syene	61 — —	42 4 43	+18 55 17
31,250	Amisus	62 30 —	44 51 —	+17 39 —
33,250	Issus	66 30 —	45 4 54	+21 25 6
34,333	Dioscurias	68 40 —	50 52 —	+17 48 —
35,000	Mouth of the Phasis	70 — —	51 5 —	+18 55 —
35,333	Thapsacus	70 40 —	48 56 —	+21 44 —
45,750	Caspiae Portæ	91 30 —	61 5 —	+30 25 —
54,583	Middle of Patalene	109 10 —	77 7 —	+32 3 —
59,625	C. Comaria	119 15 —	85 35 —	+33 40 —
61,250	Sources of the Indus	122 30 —	80 52 —	+41 38 —
73,000	Principal mouth of the Ganges	146 — —	99 23 45	+46 36 15
88,750	Thinæ	177 30 —	106 27 —	+71 3 —

In

In tracing the source of Ptolemy's error concerning the longitude of places, it may be proper to observe, that the most ancient maps were delineated on a plain projection, the several divisions of which intersected each other at right angles, and formed exact squares. The basis of that projection was a stadium of $\frac{1}{700}$th part of a degree of a great circle. The longitudinal measures, though fictitious, were assumed by Ptolemy as real distances, and accommodated to a map constructed on very different principles; whereas, he ought to have divided those measures by 700, and not by 500 stadia, and his error would have been inconsiderable. Ex. gr. 73,000 stadia were reckoned from Prom. Sacrum to the principal mouth of the Ganges. That sum, converted into degrees, at the rate of 500 stadia to a degree, would give 146° 0′ 0″; but, divided by 700, the result would be 104° 17′ 24″, which is near the truth.

The Greek and Latin texts of Ptolemy's geography often disagree, and neither of them is, in every respect, the original work. Many errors, through ignorance or inadvertency, have crept in: many alterations and additions have been made by transcribers. Those variations, in general, are most numerous in the Greek text, which treats of the eastern parts of the Mediterranean, and in the Latin for the western parts of that sea. Positions of places, unknown to Ptolemy, are sometimes added.

66. During the space of several ages after the time of Ptolemy, no essential improvement was made in geography. In the third century, Marcianus of Heraclea in Pontus, applied to the study of this science, but with indifferent success. Adopting the principles, collecting the observations, and copying the errors of others, he composed a periplus of the Northern, the Atlantic, and Indian Ocean, which he calls the exterior sea, to distinguish it from the Mediterranean and Euxine, which had been accurately described by Artemidorus. The first book of this periplus, which treats of the countries along the coast of the Indian Marcianus.

Ocean, is extant (Min. Geogr. T. I.); but the greater part of the second book is lost. The loss is inconsiderable; for his descriptions are superficial, and his computations of distances are inaccurate. The latitude and longitude, which he assigns to the known part of the world, are nearly those of Ptolemy; and he concludes his first book with the following observation:—"The river Cattiaris is the common boundary "between the habitable parts of the earth and the great southern conti- "nent; and the region that extends beyond Sera, the metropolis of Si- "næ, is unknown, marshy, and inaccessible."

Agathemerus.

67. Agathemerus, perhaps the contemporary of Marcian, but the precise date of whose life is unknown, wrote a small treatise in two books, which may be considered as an abridgement of the geographical knowledge of the ancients. The first book is divided into eight, and the second into fourteen concise sections. Having stated the current opinion concerning the figure of the earth, the most noted winds, &c. he proceeds to ascertain the extent of the sea-coasts, together with the longitude and latitude of the known world. His computations, transcribed from preceding writers, are often inaccurate. From the mouth Canobus of the Nile to Tingis in Africa, he reckons 29,252 stadia, i. e. 3907.4 Roman miles, at the rate of $7\frac{1}{2}$ stadia to every mile, or 3582 English miles, which far exceeds the distance between those places, allowance being made for the ancient mode of navigation. The length of the Caspian Sea from west to east, is computed by this geographer to be 8200 stadia, i. e. 1094 Roman, or 1003 English miles; but from the mouth of the Cyrus to that of the Jaxartes are five degrees only, which, on the parallel of 40°, are equal to 266 miles. He makes the circuit of this sea 2933 Roman miles, and admits a communication with the Northern Ocean. On the authority of Artemidorus, he determines the distance between the mouth of the Ganges and the Strait of Gibraltar to be 68545 stadia, or 9140 Roman miles, which, on the mean parallel of 30°,

30°, are equal to 138½ degrees; whereas the longitude between these places does not exceed 96 degrees. The following places are supposed to lie upon the same parallel, viz. the mouth of the Indus, Caspiae Portae, the Island of Cyprus, Rhodes, the western promontory of Sicily, the south extremity of Sardinia, the Baleares and Strait of Gibraltar. But, between the mouth of the Indus and the Baleares, there is a difference of about 15 degrees of latitude. In ascertaining the limits of the habitable part of the globe, he computes from the Ganges to Prom. Sacrum, or C. Vincent in Portugal, 70,000 stadia, or 140 degrees, instead of 99; and he reckons the earth's latitude 29,000 stadia, or 3866 Roman miles. Lastly, the extent of the Mediterranean, from the Strait of Gibraltar to Issus, is estimated 25400 stadia, or 3386 Roman miles; whereas the difference of longitude between these places does not exceed 2295 miles, or 41 degrees.

The imperfection of ancient geography.

68. From the foregoing detail it appears, that a great part of the earth was unknown to ancient geographers, who confessed or displayed their ignorance with regard to the situation, figure, and extent of countries remote from the centre of civilization. The extremities of Asia, the Arctic and Antarctic regions were alike unexplored. The wisest philosophers maintained that the torrid zone was uninhabitable, and that no communication could be opened between the northern and southern temperate zones.—Cicero, Geminus, Strabo, and Pliny were of this opinion. A partial survey had been made of the western coasts of Europe and Africa: but neither curiosity, nor the desire of information, had incited travellers to penetrate into the vast continent beyond the Ganges. In one quarter of the globe, the knowledge of the ancients equalled, or perhaps exceeded, that of the moderns; for the interior parts of Africa were pervaded. The moderns make discoveries by voyages at sea, and the ancients made them by expeditions at land.

Periplus of Necho, B. C. 600.

69. Ancient geography, however, had not extended its surveys to the Cape of Good Hope. Polybius expresses a doubt, whether Africa be peninsular, or a part of the great southern continent (L. III.). Strabo exposes his own ignorance when he treats the voyage of Eudoxus as a fable L. II.). Ptolemy was of the opinion, that from Prassum Prom. at Mossambique, the longitude of Africa increased in proportion as that region stretched towards the south, and that no communication existed between the Atlantic and Indian Ocean. It would appear, that some important discoveries of navigators in former ages were then unknown, or disregarded. But whatever account may be given of this matter, some authentic memorials of extraordinary navigations along the African coasts are still on record. Herodotus (L. IV.) informs us, that Necho King of Egypt, for the purpose of discovery, fitted out some Phœnician vessels in the Red Sea, about six centuries before the Christian æra. This fleet sailed along the coasts of Asan and Zanguebar, doubled the southern promontory, observed the sun to the right during part of their course, and, after a perilous voyage of three years, returned by the Strait of Gibraltar to the mouth of the Nile. That the circumnavigation of the African continent was practical in the time allotted to it, cannot be disputed. The distance from Suez, round the coast, is about 224° of a great circle, each of which contains 60 geographical miles. If we allow 23 miles for each day's navigation, the whole may be completed in 585 such sailing days, or 19½ calendar months. Add 12 months for the harvest, repairs, rest, &c. and the amount will be 2½ years.

Of Eudoxus.

Eudoxus of Cyzicus, to elude the wrath of Ptolemy Lathurus, sailed from the Arabian Gulph round the African continent, and landed at Cadiz. This arduous enterprise, Cornelius Nepos reports to have happened in his own time (Strabo L. II.). The periplus of Hanno the Carthaginian, more limited than either of the preceding, merits particular attention. Strabo treats this navigation with contempt; and some modern

Of Hanno.

writers

writers have endeavoured to disprove the authenticity of the narration.—But Montesquieu and Falconer have established the fact; and consider the detail as one of the most curious and valuable fragments of antiquity.—The substance of it is as follows. Having received the command of sixty vessels of fifty oars a piece, Hanno was ordered by the senate to survey the western coast of Africa, and to settle colonies in the most commodious stations. The first colony was established at *Prom. Hermæum*, now Cape Cantin, two days sailing distant from the Pillars of Hercules. Thence he proceeded in a south-west direction to *Prom. Solæ*, Cape Bajadore, the termination of Atlas Major, where he built and dedicated a temple to Neptune. Having doubled this Cape, he came in sight of a great lake, or gulph of the sea: three days and an half to the south of which is the river *Salathus*, Rio do Ouro, a lagoon. Sailing southward along a bold and desert coast, he doubled the *Gannuria extrema* of Ptolemy, Cape Blanco; and, at the bottom of a gulph, found an island five stadia in circumference, which he called *Cerne*, now Arguin. This island and the city of Carthage he supposed to be equidistant from the Strait of Gibraltar. In process of time, Cerne became the chief station of the Carthaginians in those parts. Thence he sailed to the mouth of the river *Chersi*, or *Chretes*, St John, which has a communication with a lake containing three small islands. Proceeding along a coast inhabited by a fierce tribe of barbarians, he explored the mouth of the *Daradus*, or Senegal, a great river abounding in crocodiles and hippapotami. Passing *Prom Ryssadium*, Cape Verd, he sailed south-east to *Notu Ceres*, C. St Ann; and in his progress he observed an exceeding high ridge of mountains called Serra Leona, which extends from *fluv. Massitholus*, Rio Grande, to Cape St Ann. By an eastward course he reached a gulph, in which there was a small island. In those parts, during day time, he observed dreary forests where profound silence reigned; but, in the night time, fires in all parts, and bands of the natives dancing to the sound of the pipe. He likewise perceived

perceived a mountain which he called Mount Jupiter, or the chariot of the gods, whence fire issued at intervals. His voyage of discovery was terminated at Sherbro bay, or sound, which Ptolemy calls Southern Horn, 12 days sailing from the mouth of the Gambia, or 456 miles. From S. Horn he returned to Carthage, being in want of provisions. On his return, he deposited a journal of his voyage in the temple of Saturn. To gratify public curiosity, and to perpetuate the memory of this exploit, he published an abridgement of his journal; but his commercial discoveries were kept a profound secret. Hanno flourished about three hundred and twenty years before the Christian æra, when the Carthaginian republic was in the meridian of its splendor (Pliny, Nat. Hist. L. XI. 67.); and he was contemporary to Himilco, who was sent to explore the western and northern coasts of Europe. The relation of Hanno's voyage, translated into Greek by some Sicilian, has undergone various alterations (Geogr. Min. T. 1. p. 1.).

America not known to the ancients.

70. If the ancient geographers were unacquainted with many parts of what has been called the Old World, it cannot be matter of surprise to find that they had no knowledge of the American continent. Some of them denied the possibility of its existence, contending that the figure of the heavens, which resembled the roof of an house, could not admit of an habitable region in those parts. It has been conjectured, that the Atlantis of Plato is America. This, however, is not the fact; for Atlantis was an island, at no great distance from Spain (Seneca, Quest. Nat. L. 1.), on the African coast, opposite to Mount Atlas, and five days from the deserts of Senegal (Plato, L. 1. c. 31.). D'Anville, and other modern writers, have treated the existence of this island as a fable. If Plato's account merits any degree of credit, we must look for the remains of Atlantis among the Canaries.

Passage in Ælian.

The following remarkable passage in the works of Theopompus has been preserved by Ælian (L. III. c. 18.):—" Europe, Asia, and Africa

are

" are islands; beyond which there is a continent, whose dimensions are " vast, and the size of whose inhabitants is in proportion. Their cities, " manner of living, and laws are different from those in other regions of " the earth. Some pass their days in tranquillity and affluence, and " others are engaged in perpetual hostilities. Silver and gold are found " among them in abundance, &c." The remainder of this passage is grossly fabulous, and the authenticity of what is now quoted is doubtful.

Indians presented to Metellus Celer.

Pliny the historian (L. 11. 67.), on the authority of Cornelius Nepos, relates, that a German chief, who was king of the Suevi, presented to Metellus Celer, Roman proconsul of Gaul, certain Indians, who had sailed from a very remote region, and had been shipwrecked on the coast of Germany. These unfortunate persons, it is supposed, were inhabitants of North America, who had navigated through the Straits of Waygatz, and passed into the German Ocean. But recent discoveries have evinced this navigation to be impracticable. These reputed Indians were, perhaps, trading Tartars, who, in the ordinary course, had proceeded westward from the Tasian Gulph, but who, instead of ascending the river Oby, were driven round the coasts of Lapland and Norway, and were cast ashore near the Elbe (Strahlenbeg's descript. of Siberia and Tartary.).

The ancient division of the sphere.

71. Having traced the progress of geography from the earliest period to the age of Ptolemy, it may now be proper concisely to describe the terrestrial sphere, according to the idea of the ancients. The earth was at first supposed to be stationary, and the heavens to be moveable round this common centre of the universe. The several parts of the *primum mobile*, it was imagined, were represented by their corresponding parts on this globe; and similar circles were delineated on the celestial and terrestrial spheres.

The Poles.

The earth is a body nearly spherical. The extremities of its axis, called poles, are directed to the two correspondent immoveable points in the

the heavens, about which all celestial luminaries have an apparent motion.

The circles of the sphere are commonly divided into *greater* and *less*. A great circle is that whose plane passes through the centre of the earth, and divides it into two equal parts, or hemispheres. A less circle, being parallel to a great circle, divides the earth into two unequal parts, or segments. The great circles are six in number, and the less are four.

Equator. The equator is a great circle equally distant from the two poles of the world, and dividing the globe into the northern and southern hemispheres. It passes through the middle of Africa, traverses the Indian Ocean, the islands of Sumatra and Borneo, the Pacific Ocean, and South America to the mouth of the river Amazon, whence it returns to the coast of Africa. When the sun moves in the plane of this circle, the days and nights are equal all over the world: hence it is sometimes called the equinoctial.

Zones. Five zones, or circular belts, supposed to environ the globe at certain distances from the equator, are distinguished by different appellations. The torrid zone extends to the tropics, comprehending 46° 58′, or 23° 29′ on either side of the equator: some of the ancients concluded this division to be uninhabitable. When the fact was ascertained by the observations of travellers and navigators, the breadth of this zone was considerably reduced.

The two temperate zones, so called from the moderate degree of heat which their inhabitants enjoy, extend 43° beyond the torrid zone, i. e. to 66½° latitude nearly, and lie between the tropical and polar circles. Within these limits, the meridian sun is never found in the zenith, nor below the horizon.

The two frigid zones reach from the polar circles to the poles, and were anciently supposed to be bound up in perpetual frost. Each frigid is to each temperate zone in extent of surface, as one to six: and the torrid

torrid zone is three-fourths of the sum of both the temperate. A considerable part of the Arctic, or northern frigid zone, is inhabited; but the southern frigid zone has been lately discovered to be inaccessible.

All places whose latitudes are less than $23\frac{1}{2}^{\circ}$ are under the torrid zone: those in $23\frac{1}{2}^{\circ}$ lat. are under the tropics; and those lying between $23\frac{1}{2}^{\circ}$ and $66\frac{1}{2}^{\circ}$ are in the temperate zones. The breadth of every zone may be found, by reckoning 60 geographical or $69\frac{1}{4}$ British miles to a degree.

The zones are distinguished from one another by various phenomena. To the inhabitants of the torrid zone the sun is verticle twice a year.—In the middle of that zone, the days and nights are always equal, viz. 12 hours; and the twilight is short, because the sun descends perpendicularly below the horizon.—Its circuit under the equator is 9000 leagues of about 25 to a degree, and under the tropics 8253.—Within its limits there are only two seasons in the year, viz. winter and summer: but these are diversified by various causes.

The maritime country in the western part of Africa, from the tropic of Cancer to Cape Verd, is fruitful; the climate is comparatively temperate, and the inhabitants are healthy; for large rivers refresh the air and fertilize the soil; and the adjacent sea supplies cooling breezes, winds, and vapours.

On the coast of Guinea, which lies from west to east, there is suffocating heat, and, in certain months, abundant rain, with thunder, lightning, and tempest, occasioned by a great quantity of vapours and sulphureous exhalations from the sea and the country itself, which are seldom dispersed by the wind. The seasons vary to the southward along the African coast.

In Arabia, under the torrid zone, the heat during summer, i. e. from March to August, is intense, not being mitigated by any vapour arising from the arid and sandy soil. The exhalations from the Red Sea are

carried westward by the gentle gales which come from the eastern part of the Arabian continent.

At Cambaye, and along the west coast of the peninsule of India, the wet season continues from the 10th of June to the 10th of October with some variation: and on the Coromandel coast the heat is almost insupportable from May 4th to June 4th, the wind blowing from the north.

In the country at the mouth of the Ganges, and along the coasts of Pegu, Siam, &c. the rainy months are September, October, and November: but in Malacca it rains two or three times every week throughout the year, except in January, February, and March, when the dry weather is constant and uninterrupted.

Under the torrid zone in America, the seasons in Peru are very different from those in Brasil, under the same latitude. In the maritime territory of Peru there is little rain; but heavy dews moisten, refresh, and fertilize the soil. In the province of Popayan and the plains of Cusco, there is sometimes frost and snow. In Brasil, that extends from 2° to 48° S. latitude, several provinces enjoy a mild temperature, and are refreshed by gentle breezes from the sea. The mountains are dry and parched, but the hills and plains are well watered and fertile.

In the province of Nicaragua, in 12° N. latitude, the rains are incessant during six months, viz. from the first of May to the beginning of November: dry weather prevails during the remainder of the year.

From this superficial view of the state of the torrid zone, the following conclusions may be drawn, viz.—that in some places little cold is felt, and winter is distinguished only by immoderate rains:—that in other places under no higher latitudes there are considerable degrees of cold:—that winds and sea breezes often mitigate the heat:—that most of the inhabitants of this zone reckon two seasons only:—that different places, not far distant from one another, have their summer as well as their winter at different times of the year.

The

The inhabitants of the temperate zones never have the sun in their zenith :—their longest day does not amount to 24 hours :—their days and nights are equal twice a year :—the pole is always elevated more than $23\frac{1}{2}^{\circ}$, and less than $66\frac{1}{2}$ degrees :—there are many stars round the polar circle which never set, and others in the opposite hemisphere which never rise :—the twilight is of longer duration than in the torrid zone :—the inequality of the days is increased as the pole is more elevated.—The northern temperate zone comprehends Europe and most part of Asia, with a considerable proportion of North America, of the Atlantic Ocean, and of the Pacific Sea : the southern includes a part of South Africa, and of Brasil and Chili, with a large proportion of New Holland.

The seasons in different places under the same latitude are very different, i. e. are more hot or cold, more dry or moist ; owing to the nature of the soil, and its vicinity to mountains, or to the sea.

Most countries near the tropic are hot, and some are moist, in summer. Thus, in Guzerat beyond the tropic, there are some months of drought and moisture ; and summer is often a rainy season. On the Persian coast, at Ormus, and in the sandy desert of Arabia, the heat is intense. In Barbary, the cold and rainy season commences about the middle of October ; spring begins February 15th, and ends May 18th ; summer continues till August 16th ; autumn from August to November 16th ; winter from November to February 15th. On Mount Atlas, the year is divided into two seasons : winter reigns from October to April, and summer from April to October. In the northern provinces of China, whose latitude is nearly that of Italy, the cold is sometimes so intense as to freeze the rivers and lakes ; and in New Albion, in 42° N. latitude, Admiral Drake found the hills, in the month of June, covered with snow.

In Egypt spring appears in January, summer in April, autumn in September, and winter in November.—In the Strait of Magellan, 52° S. la-

titude, summer is cold, and the higher parts of Patagonia are covered with snow. In general, there is less heat and more frequent rain during summer in the southern than in the northern temperate zone.—In Potosi, the cold is very piercing. In Chili, from 30° to 50° S. latitude, the vernal season begins in August, and ends about the middle of November: summer lasts till the middle of February, and autumn till the middle of May: in winter there is a considerable depth of snow on the hills.

In Japan the winter is colder and more moist than in most other countries under the same latitude; that island being intersected by deep inlets and gulphs of the sea. In no part of the globe is the temperature milder than in Italy, Spain, and France.

Those who live in the frozen zones have one day and one night only in the year; so that each is of about six months duration. The stars in the one hemisphere never set, and those in the other never rise. All the revolutions of the sun are parallel to the horizon.—The polar arctic circle passes through Iceland, the north part of Norway, Lapland, the country of Samoyedes, Tartary, North America, and Greenland; and the south polar circle passes through islands of ice and part of the frozen region in the southern ocean.

Climates. The division of the earth into zones being too general for the purpose of ascertaining the distances of places, one from another or from the equator, it became necessary to subdivide each hemisphere into parts more minute. Upon the equator the day consists invariably of twelve hours. At any given place in either hemisphere, the longest day holds a certain proportion to the distance of that place from the equator; consequently the greatest length of the day being known, the latitude of any place may be found. To facilitate this operation, the ancients divided the surface of the sphere into climates. A number of circles parallel to the equator was described; and the space between every two of these circles, proportionate to one half hour of increase in the length of the

the day at the summer solstice, was called a climate. The first climate commences at the equator, where the length of the day is uniformly the same. In 8° 34′ lat. the longest day is 12½, and the shortest 11½ hours. This parallel is fixed as the termination of the first, and beginning of the second climate. Upon the parallel of 16° 44′, the longest day is 13, and the shortest 11 hours: here the second climate ends, and the third commences, &c. The 24th climate begins at 69° 29′, and terminates at 66° 32′, the polar circle, where the sun never sets at the summer solstice, as in the extremity of Lapland, and northern parts of Siberia. At 66° 32′, the climates of months begin; for the longest day in this high latitude consists of one month. From 67° 22′, the second monthly climate extends to 69° 49′, where the length of the day at the summer solstice is two months, &c.: and, at the pole, which is the termination of the sixth climate of months, the longest day is six months, i. e. a complete year consists only of one day and one night. By the following table these observations will be sufficiently illustrated.

Table

TABLE OF CLIMATES.

Climates.		Longeſt day.		Latitude.		Extent.		Names of Countries, &c. in every Climate north of the Equator.
		H.	M.	Deg.	Min.	Deg.	Min.	
	Begin.	12	—	—	—			1. The first climate contains,—The Coast of Guinea, Benin, the Mountains of the Moon, the Maldive Islands, Ceylon, the northern provinces of Sumatra, the greater part of Borneo, part of the Celebes, Mindanao, the New Philippines, part of Granada and Andalousia.
I.	Middle	12	15	4	19	8	34	
	End	12	30	8	34			
	Middle	14	45	12	43			2. Guinea, Nigritia, Abyssinia, Straits of Babelmandel, S. W. part of Arabia Felix, Malabar, Carnatic, Madrass, part of Siam and Cochinchina, the Philippine Islands, Straits of Darien, Nicaragua, Honduras, North Coast of Terra Firma, Granada, St Vincent, Tobago, Barbadoes.
II.	End	15	—	16	44	8	10	
	Middle	13	15	20	34			3. Cape Verde Islands, the Desert of Sahara, Nubia, Arabia Felix, Mouth of the Indus, Guzerat, part of Bengal, Ava, Tonquin, South Coast of China, Mariann Islands, Mexico, Yucatan, Cuba, Jamaica, Hispaniola.
III.	End	13	30	24	13	7	29	
	Middle	13	45	27	37			4. Canary Islands, part of Morocco, Egypt, upper part of the Red Sea, part of Arabia Felix and Deserta, Gulph of Persia, lower part of the Indus, Dehli, northern provinces of Bengal, Thibet, south provinces of China, part of California, Leon, south part of Florida, Bahama Islands.
IV.	End	14	—	30	45	6	32	

Table continued.

Climate.		Longest Day. H.	M.	Latitude. Deg.	Min.	Extent. Deg.	Min.	Names of Countries, &c. in every Climate north of the Equator.
								5. Fez, Strait of Gibraltar, Barbary Coast, Candia, Cyprus, Syria, Persia, Candahar, Cachemire, Mountains of Thibet, middle provinces of China, part of Japan, California, Mexico, Florida, part of Carolina, Madeira.
V.	Middle	14	15	33	46	5	45	
	End	14	30	36	30			
								6. The south provinces of Portugal and Spain, Majorca, part of Sardinia, Sicily, south parts of Italy and Greece, Constantinople, greater part of Asia Minor, Armenia, lower extremity of the Caspian Sea, Buckharia, Samarcand, Desert of Cobi, north provinces of China, Corea, Japan, California, Louisiana, Carolina, Virginia, Maryland, Philadelphia, New Jersey.
VI.	Middle	14	45	39	3	4	53	
	End	15	—	41	23			
								7. The northern provinces of Portugal and Spain, south part of France, Corsica, Turin, Genoa, Rome with part of Italy, Dalmatia, Servia, Bulgaria, Euxine Sea, Georgia, Caspian Sea, Charasm, Bukharia, Cobi, Mongal Tartary, Corea, Yeso, New Albion, Lake Ontario, Pensylvania, New England, Boston.
VII.	Middle	15	15	43	32	4	9	
	End	15	30	45	32			
								8. The greater part of France, Switzerland, Southern Provinces of Germany, Venetian territories, Hungary, Little Tartary, Circassia, north coast of the Caspian, Quebec, Nova Scotia, Gulph of St Laurence, Newfoundland.
VIII.	Middle	15	45	47	21	3	29	
	End	16	—	49	1			
								9. London and the southern provinces of England, North part of France, Middle of Germany, Upper Poland, South Provinces of Russia, South part of Lake Baykal, Tartary, Extremity of Kamschatka, Mouth of the River St Laurence, Newfoundland.
IX.	Middle	16	15	50	34	2	58	
	End	16	30	51	59			

Table continued.

Climate.		Longest Day.		Latitude.		Extent.		Names of Countries, &c. in every Climate north of the Equator.
		H.	M.	Deg.	Min.	Deg.	Min.	
X.	Middle	16	45	53	17	2	31	10. Ireland, Northern Provinces of England, United Provinces, North part of Germany, Lower Poland, part of Prussia, Provinces of Bielgorod, and Voroneskoi, Desert of Ischimska, Baykal Lake, Tartary, Kamschatka, New S. Wales, St James' Bay, Esquimeaux.
	End	17	—	54	30			
XI.	Middle	17	15	55	35	2	31	11. The Northern part of Ireland, South counties of Scotland, Copenhagen, the Baltic, North part of Lithuania, Muscow, Casan, Kamschatka, New S. Wales, Labradore.
	End	17	30	56	38			
XII.	Middle	17	45	57	34	1	49	12. The Northern counties of Scotland, South parts of Norway and Sweden, Livonia, Nowogorod, Solkamskoi, Tobolski, Jeniseiskoi, Kamschatka, Hudson's Bay, Labradore.
	End	18	—	58	27			
XIII.	Middle	18	15	59	15	1	32	13. Orkney Islands, South extremity of Shetland, Stockholm, Gulph of Finland, Wologda, part of Tobolski, Jeniseiskoi, Kamschatka, Hudson's Bay, Labradore.
	End	18	30	59	59			
XIV.	Middle	18	45	60	40	1	19	14. Shetland, Bergen, South part of Finland, Petersburgh, part of Lake Ladoga, Tobolski, Jakucuskoi, Hudson's Bay, Labradore.
	End	19	—	61	18			
XV.	Middle	19	15	61	53	1	7	15. Dalecarlia in Sweden, Finland, Lake Ladoga, Lake Onega, Surguthkoi, Jakucuskoi, New Wales, Hudson's Bay, North part of Labradore, South part of Greenland.
	End	19	30	62	25			
XVI.	Middle	19	45	62	55	—	57	16. The middle of the Gulph of Bothnia, upper part of Lake Onega, Jakucuskoi, New Wales, Hudson's Bay and Strait, South part of Greenland.
	End	20	—	63	22			
XVII.	Middle	20	15	63	47	—	48	17. The south extremity of Iceland, Gulph of Bothnia, south part of the White Sea, Jakucuskoi, North Wales, Welcome Bay, Isle of Good Fortune, Greenland.
	End	20	30	64	10			

Table continued.

Climate.		Longest Day. H.	M.	Latitude. Deg.	Min.	Extent. Deg.	Min.	Names of Countries, &c. in every Climate north of the Equator.
XVIII.	Middle	20	45	64	31	—	39	18. Iceland, north part of the Gulph of Bothnia, White Sea, Archangel, Mangajeiskoi, Jakucuskoi, New Wales, Barren Isle, Isle of Good Fortune, Greenland.
	End	21	—	64	49			
XIX.	Middle	21	15	65	6	—	32	19. Iceland, White Sea, Mangajeiskoi, Jakucuskoi, New Wales, Barren Isle, Isle of Good Fortune, Greenland.
	End	21	30	65	21			
XX.	Middle	21	45	65	35	—	26	20. Centre of Iceland, Mouth of the Oby, Repulse Bay, James's Island, Greenland.
	End	22	—	65	47			
XXI.	Middle	22	15	65	58	—	20	21. Iceland, bottom of the Gulph of Bothnia, northern part of Russia, New Wales, Greenland.
	End	22	30	66	7			
XXII.	Middle	22	45	66	15	—	14	22. Iceland, territory at the bottom of the Gulph of Bothnia, northern part of Russia, New Wales, Wager Bay, Greenland.
	End	23	—	66	21			
XXIII.	Middle	23	25	66	25	—	8	23. The north extremity of Iceland, Swedish Lapland, White Sea, Northern parts of Russia, New Wales, Cumberland Bay, Davis' Straits, Greenland.
	End	23	30	66	29			
XXIV.	Middle	23	45	66	31	—	3	24. Swedish and Russian Lapland, northern parts of Russia, Cumberland Bay, Davis' Straits, Greenland.
	End	24	—	66	32			

Table continued.

CLIMATES OF MONTHS.

Climate.		Longest Day.	Latitude.		Extent.		Names of Countries, &c. in every Climate north of the Equator.
		Months.	Deg.	Min.	Deg.	Min.	
XXV.	Middle	1½	—66	44	—	50	25. Lapland, northern part of Russia, bottom of Cumberland Bay, Davis' Straits, Greenland.
	End	1	—56	22			
XXVI.	Middle	1½	—68	24	2	27	26. Straits of Waygate, James' Isle, Davis' Straits, Greenland.
	End	2	—69	49			
XXVII.	Middle	2½	—71	35	3	49	27. Zembla australis, James' Isle, Davis' Straits, Greenland.
	End	3	—73	38			
XXVIII.	Middle	3½	—75	58	4	53	28. Zembla borealis, Baffin's Bay, Greenland.
	End	4	—78	31			
XXIX.	Middle	4½	—81	14	5	34	29. Spitzbergen, or East Greenland.
	End	5	—84	05			
XXX.	Middle	5½	—87	01	5	55	30. Unknown regions in the vicinity of the pole.
	End	6	—90	—			

In the foregoing table, the parallels of latitude which bound every climate are fixed, the most remarkable places in the several climates are enumerated, and the longest day in every climate is ascertained. An example will render the use of this table sufficiently obvious. The ninth climate lies between 49° 1′, and 51° 59′ N. latitude. Being a circular zone, or belt of 2° 58′ in breadth, it includes the following regions, *viz.* the southern provinces of England, the north part of France, middle of Germany, Upper Poland, &c. And to all in this climate, the length of the day at the summer solstice is from 16 hours to 16 hours 30 minutes.

Every climate is supposed to be bounded on either side by a circle parallel to the equator, and to be divided into two equal parts by another parallel. Those who refer to the intermediate spaces reckon two parallels only, and those who compute by the number of circles reckon three in every climate.

The ancients divided the known part of the world into seven climates: the first of which extended from $12\frac{3}{4}$ hours to $13\frac{1}{4}$ hours; the second from $13\frac{1}{4}$ to $13\frac{3}{4}$; the third from $13\frac{3}{4}$ to $14\frac{1}{4}$ hours, &c. The middle of the first climate corresponded to 13 hours; that of the second to $13\frac{1}{2}$ hours; that of the third to 14 hours; and that of the seventh to 16 hours, beyond which their knowledge of the globe did not extend.

The original designations of climates were derived from the most remarkable places through which the middle parallels passed: thus, the first northern climate was called *δια Μεροης*; the second *δια Συηνης*; the third *δια Αλεξανδραις*; the fourth *δια Ροδε*; the fifth *δια Ρωμης*; the sixth *δια Βορυσθενες*; the seventh *δια Ριπαιων*. The southern climates were distinguished by the same appellations with the preposition *αντι* prefixed.

In the third climate are two circles called tropics, parallel to the Equator, at the distance of 23° 28′ from it on either side. They are so called because the sun, when he moves in these circles, is in his greatest elongation, and appears to recede thence in a retrograde direction. The northern Tropics.

ern circle is called the tropic of Cancer, the appellation of the sign into which the sun enters at the summer solstice; and the southern the tropic of Capricorn for a similar reason. The former, delineated on a terrestrial sphere, traverses Mount Atlas on the western coast of Africa, the Red Sea between Medina and Mecca, the Gulph of Indus, Bengal, Canton in China, the Gulph of Mexico, and the northern extremity of Cuba: the latter passes over the country of the Hottentots in Africa, the middle of New Holland, the Pacific Ocean near Obeteroa, the Desert of Atacamas, Paraguay, and Rio Janeiro in South America.

Polar circles. The polar circles are described at the distance of 23° 28′ from either pole. The northern is called the Arctic, and the southern the Antarctic circle.

The circles which divided the sphere into climates, were sometimes denominated circles of latitude, in reference to the breadth of the earth from the equator (Ptol. Geogr. L. I. c. 6.), which was anciently supposed to be considerably less than its extent from west to east, or its longitude. Latitudes of places are measured on their meridians. Circles of longi-
Meridians. tude cut the equator at right angles, and pass through the poles. A meridian is a great circle which intersects the equator at right angles, passes through the poles of the earth, and is divided into 360°, or into twice 180°, or four times 90°. This circle is called a meridian, because the sun's centre is always found in it at noon or mid-day. As the sun never arrives at the meridians of two places of different longitudes in the same moment of time, all places, whose longitudes differ, must have their respective meridians. All meridians, being great circles, degrees of latitude must be nearly equal; but degrees of longitude decrease in proportion to their distance from the equator.

Though no one meridian is preferable to another, (because on a sphere, or globe, there is, properly speaking, neither beginning nor end); yet, in order to ascertain the longitudes of places, some one must be fixed whence

longitudes

longitudes are to be reckoned. Different meridians were adopted by ancient geographers. Pytheas fixed *Thule*, now Iceland, as the first meridian, being the western extremity of the known world. Eratosthenes preferred the Pillars of Hercules, or Strait of Gibraltar, supposed to be 10 degrees east of the Fortunate Islands; which is the reason why the longitudes of places in the geography of Abulfeda, who adopted the meridian of Eratosthenes, are 10 degrees less than those in Ulugbeigh, Alfragan, and other Arabian writers who followed Ptolemy. Marinus and Ptolemy reckoned from the Fortunate Islands, or the Canaries. It may be added, that ancient Indian geographers reckoned longitudes from east to west, according to the apparent motion of the *primum mobile*. Their first meridian was Cancadora, a place whose situation is now unknown; for it is not the Caithagora of Edressi, nor the Cattigara of Ptolemy.

Observations of the ancients inaccurate.

Though the ancients, in determining the longitudes and latitudes of places, proceeded upon proper principles, yet their observations were extremely inaccurate, owing partly to the imperfection of their instruments, and partly to their own inattention. From the sun's verticality in the torrid zone, and its meridian altitude in other climates, found by means of an astrolabe, or by the shadow of a gnomon, they computed the latitude of any given place. When neither of these methods could be employed, they had recourse to the best information they could procure of the length of the longest day at the place whose latitude was required. Longitudes were sometimes ascertained by the observation of lunar eclipses, but more commonly by actual surveys, itineraries of travellers, and vague reckonings of navigators. From methods so inaccurate, no conclusion could be deduced with any degree of precision.

Decline of science.

72. The school of Alexandria subsisted long after Ptolemy, but produced nothing greater or better than commentators and compilers. In Europe various occurrences paved the way to ignorance and barbarity. In the earliest times of Christianity, men of learning were too keenly engaged

gaged in theological speculations to find leisure or inclination for the study of the sciences, which were then deemed frivolous objects of pursuit. Luxury had enervated all ranks and denominations throughout the empire; and intestine discords prevailed. By frequent invasions, the vast tribes of the north gradually weakened, and, in process of time, overturned the Roman power. This important revolution proved the ruin of science and of fine taste.

Cosmas. Cosmas, styled Indicopleustes, from the supposition that he had navigated the Indian Ocean, about the middle of the sixth century published a work, called *Topographia Christiana*, the main design of which is to prove that the earth is an oblong plane, 12000 miles from east to west, and 6000 in breadth, in opposition to the philosophical notion of its being a sphere, which he conceived to be a heretical opinion contrary to divine revelation. On a marble chair near Adule, a city in Ethiopia, this author found a Greek inscription relating to Ptolemy Euergetes, and importing that he had nearly conquered the whole empire of the Seleucidæ in Asia, and the kingdom of Abyssinia in Africa. The map which he constructed is a despicable production. He makes the world a parallelogram with a circumambient ocean, and the rivers of paradise flowing on the outside; while the vicissitude of day and night is not caused by the revolution of the earth, or the heavens, but by the sun's disk being obscured by a mountain in the extremity of the north. His Caspian Sea joins the ocean; and his Nile, running under the sea, springs from Gihon in another world. The Arabian and Persian Gulphs are nearly the same form with the Caspian. Beyond the ocean he supposes land, where mankind lived before the general deluge. But amidst these wild reveries, he seems to relate with candour what he himself had observed in his travels, and what he had learned from others. He appears to have been acquainted with the western coast of the Indian peninsula, and names several places upon it. He mentions *Male*, in particular, as one of the most frequented ports for the pepper trade; and intimates that Taprobane, which he calls Sieledíba,

Sieledida, the same with Selendib, was the emporium for all the valuable productions of eastern countries.

State of geography among the Arabs.

73. When the light of science was extinguished in Europe, a feeble ray broke out in a quarter where it was least expected. The Arabs, having subdued Egypt A. D. 641, from a contempt of human learning, destroyed the famous library and academy of Alexandria. During the space of a century posterior to this deplorable event, they were incessantly engaged in wars and conquests. Having, at length, established a powerful empire in Asia, they applied to the revival of science, and to the cultivation of the fine arts. Three Mahometan princes collected the fragments that had escaped the general wreck of literature, and excited a spirit of inquiry throughout their dominions. Almanzor, who began to reign A. D. 754, encouraged the study of philosophy and astronomy. Haroun-al-Raschid, who succeeded to the throne A. D. 786, brought from Constantinople and from Greece, many literary productions; which, by his command, were translated into Arabic. Mamoun his son, a learned and generous prince, procured translations of the works of Theophrastus, Euclid, Ptolemy, &c. On celestial observations astronomical tables were constructed. A degree of latitude was measured in the plain of Sinjar, or Senaar, in Mesopotamia. A number of expert astronomers and geographers, having ascertained the elevation of the pole, divided into two parties; the one of which went northward, and the other south, until the former perceived the polar star to be raised one degree above its altitude in Sinjar, and the latter found it as much depressed. Measuring the intermediate space, they computed a degree to be $66\frac{2}{3}$ Arabian, equal to 69 English miles nearly.

Measure of a degree.

Arabian Measures.

With regard to the ancient Arabian measures, it may be observed, that the most considerable of them were the inch, the cubit, the mile, the parasang, the station, and the cursus. An inch was the space occupied by six grains of barley laterally placed. A cubit contained 1.368 English

lish foot. A mile consisted of 4000 cubits; and a parasang of three miles. A mean station was equal to eight parasangs: but when distances were determined by stations, a fifth part was deducted to give the extent of the interval in a direct line. The cursus was estimated to be as much as a ship could sail in the space of 24 hours, viz. about 86 Arabian miles (Proleg. ad Geogr. in Minor. Geogr. T. IV.).

Arabian Geographers.

74. The encouragement which Mamoun gave to learned men excited the emulation of his subjects. Geography, in particular, became the fashionable study of the Arabs. Many works on this subject soon appeared. Abou-Isaac published a treatise of geography in the beginning of the tenth century: and he was followed by Mohammed-ben-Hassan, and by Hossain-ahmed-alkale, the latter of whom composed a dissertation on the most remarkable rivers and mountains. Schan-sedin-al-codsi, A. D. 1010, described the known parts of the globe, having divided them into climates; the Arabs being unacquainted with any political division of the earth, and with all that related to the history and government of particular states. Abou-Rihan, surnamed Al-Birouni, an eminent mathematician and astronomer in Chorasmia, in the same, or succeeding century, published a geographical work under the title of Canoun-al-Massoudi, which he inscribed to Massoud, Sultan of the Dynasty of Ghaznevides. The laborious compilation of Ebn-Haukal, in the 10th century, excelled all that had preceded. This geographer actually surveyed the various climates and regions, within the circle of Islam, or Mahomedanism. In his description of those parts, he begins with Arabia, and proceeds to the Deryai-Pars, or Persian Sea. Having given an account of the western countries Zemean-Magrab, a portion of Africa, Egypt, Syria, Susiana, and part of Persia, together with the places bordering on Sind and Hind, the confines of Hindoostan, and the rivers of that country; he next describes, among other places, the Deryai-Khozr, or Caspian Sea, and the nations surrounding it, the deserts between Khorasan

rasan and Fars,—the province of Sejestan, with Khorasan and Maweral-nahr, or Transoxiana. But, though his description of every region is circumstantial, and has been almost copied by succeeding geographers, yet he was unacquainted with, or not sufficiently attentive to, the proper longitudes and latitudes of places. In the commencement of the twelfth century, Esseriph-Essachalli composed a treatise of ancient and modern geography, entitled Nushat-Alabsar, i. e. *Spatiatorium locorum*, a copy of which he presented to Roger king of Sicily, who ordered it to be translated into Latin, and preferred it before all other works on this subject.

Al-Edrissi, A. D. 1150.

Al-Edrissi, distinguished by the appellation of the Nubian geographer, A. D. 1150, described the extent and limits of various regions, the situation of cities, &c. A copy of this work was also presented to the Sicilian monarch. A general map of this author, taken from an Arabic copy in the Bodleian Library, is published by Vincent, in his admirable illustration of Arrian's Periplus. This map, he observes, is founded upon the error of Ptolemy, which carries the African coast round to the east, and forms a southern continent, totally excluding the circumnavigation into the Atlantic Ocean. The sources of the Nile are placed in a ridge called the Mountains of the Moon, below which are three large lakes traversed by those streams. Nearest the lowest lake there is a ridge of hills, whence the Niger flows westward to the Atlantic. The Caspian is an inland sea. A communication is marked by a river between the upper part of the Euxine, i. e. the Sea of Asoph and the bottom of the Adriatic Gulph. The sea is open and navigable round by the north, from China to Norway and Great Britain.

Nassir-eddin, A. D. 1260.

Nassir-eddin, who flourished A. D. 1260, was a mathematician and astronomer in Maraga, a city of Persia. This eminent author travelled through many provinces of Asia, and derived his information concerning other countries from the most approved Arabian and Indian writers. On the observations which he made, and the information he received, he construc-

ted astronomical tables, from which one of longitudes and latitudes of places has been extracted (Geogr. Min. T. IV.). In this table, the longitudes are computed from the Fortunate Islands. But as the Arabs in Asia had little intercourse with Europe and Africa, their accounts of those regions were very imperfect. Nassir-eddin's longitudes are, in general, erroneous; but his latitudes are tolerably correct. The construction of his geographical table is extremely simple. In the first perpendicular column, the names of kingdoms and provinces are inserted. The second contains the names of cities and towns of note. In the third and fourth are the longitudes and latitudes of those places. In the last column the climate is specified. The longitudes, &c. of 248 cities are ascertained, all of them Asiatic, 18 excepted, which belong chiefly to Africa.

Abulfeda, A. D. 1321.

The next geographer of eminence was Abulfeda, prince of Hamah in Syria, who died A. D. 1345. To correct the errors and supply the defects of former writers, he composed tables, to which a particular description of places was annexed. For the most trivial facts he has quoted the authorities on which he relied. At the same time he acknowledges, that the Arabs were in a great measure strangers to distant countries; that the accounts of China received from navigators and travellers were defective or false; that those of India were doubtful, confused, or fabulous; that almost all of the kingdoms from Constantinople to the Atlantic Ocean were unknown; and that he had collected nothing of importance concerning the regions of Africa (Abulfeda, proem. in tabul. Geogr.). It may be proper to add, that this geographer has computed the longitudes of places, not from the Fortunate Islands, the first meridian of Greeks, Latins, and the greater part of Arabs, but from the Pillar of Hercules on the African coast, opposite to Gibraltar, or from the extreme promontory on that coast, 10° E. of the Canaries: though some more ancient Arabian geographers reckoned 17° 30′ between these islands and the continent (Canon Arzachelis, Tab. Alphons.).

Indian

Indian astronomers and geographers made use of another mode of computation. In a very remote period, their first meridian passed through Arim 90° E. of the Pillars of Hercules; and, in process of time, was transferred to Cancadora. From this meridian the Indians reckoned westward; so that their longitudes increased in proportion to the decrease in the tables of Ptolemy. First meridians of the Indians.

In ascertaining the climates, Abulfeda adopted a mode different from that in use among Greek, Arabian, and Persian geographers, who divided the latitude of the known part of the globe into seven climates. He availed himself of this division, and added 28 artificial climates, denoting thereby the regions which he described. One artificial climate sometimes contained a portion of one fixed, or natural, climate; and sometimes it comprehended part of two or more climates. He makes Syria, for instance, one artificial climate, though it constitutes part of the third and fourth fixed climates. The tables of this geographer are tolerably accurate, and his descriptions are circumstantial and correct. John Greaves, professor of astronomy in the university of Oxford, translated the geography of Abulfeda; and Hudson published the original with the translation (Min. Geogr. T. IV.), annexing thereto a description of Arabia by the same author.

Some of the Tartar princes, descendants of Gengiskhan and Tamerlane, applied with success to the sciences of astronomy and geography. Among these Ulug-beigh appears in the foremost rank, and merits particular attention. This illustrious prince reigned at Smarkhand, the capital of Bactriana. A promoter of science, an encourager of learned men, and himself an astronomer. He founded an academy, built an observatory, and constructed astronomical instruments of extraordinary magnitude. By a series of observations which he made, the longitudes and latitudes of several places were corrected. A table of these was published, A. D. 1437, and is still extant. The names of places and arrange- Ulug-beigh, A. D. 1437.

ment are the same with those in Nassir-eddin's tables; but the numbers are improved. Many gross errors, however, remain. In both tables the longitudes are computed from the Fortunate Islands, but not a few of them correspond neither with this meridian nor with that of Abulfeda.

The Arabs, in the most enlightened period, had no proper information concerning the remote parts of the earth. They were ignorant of the form, magnitude, and contents of every kingdom in Europe and in Africa. Ulug-beigh, who corrected the observations of others, makes the longitudinal distance between Rome and Constantinople to be 4° 23′ only, whereas it exceeds 16 degrees. He places the former of those cities in 55° 27′ E. longitude from the Canaries, though it is no more than 30° 7′ E. of Ferro. Athens, according to his computation, is situate 50° E. of Constantinople, but its real position is 5° 2′ W. of that city. He estimates the distance between the Canary Islands and the mouth of the Indus to be 102 degrees, which far exceeds the truth; and he considerably reduces the extent of the southern coast of Arabia Felix. Lastly, he places Cashemire in the same longitude nearly with the western mouth of the Indus; whereas the former is about ten degrees east of the latter. On the whole, we need not much regret the loss of these numerous geographical productions of the Arabs, whose titles alone have been transmitted to posterity.

State of Europe in the middle age.

75. While various attempts were made to revive and encourage geography in Asia, the greater part of Europe was involved in darkness.—The fierce barbarians, who had broken in pieces the Roman Empire, were strangers to arts and sciences, and neglected or despised them. Former discoveries and improvements were forgotten. No expeditions were undertaken to distant regions. Navigation was no longer continued; and every degree of attention to commerce was withdrawn. The knowledge of the situation, and even of the names of remote places was lost. The feudal form of government, established in almost every kingdom of Europe, discouraged learning of every kind. In those ages of confusion

and

and obscurity, the elegant productions of Athens and of Rome were consigned to oblivion; and the sole literary pursuits then in estimation, consisted of metaphysical disquisitions, and of subtleties, or of vague speculations on theology.

Revival of geography in Italy.

76. Towards the conclusion of the middle age, some rays of science faintly illumined a particular corner of Europe. In Constantinople the remains of ancient arts and discoveries had been long preserved. An intercourse still subsisting between the Greeks and the eastern nations, the productions of the latter were annually imported through different channels into the capital of the Greek Empire, and thence were conveyed to Italy and other marts, where they were disposed of at exorbitant rates. Labouring under many disadvantages in the purchase of those commodities, the Italian merchants, then called Lombards, established a lucrative trade on the coasts of Syria and Egypt; and during the twelfth and thirteenth centuries engrossed the commerce of Europe. In retailing the wealth of the east, these adventurers visited the ports of Spain, France, the low countries, and Great Britain. In the course of their expeditions, they attentively observed and carefully recorded whatever they found remarkable in the countries which they visited, or through which they passed; and thus they contributed to the revival of the science of geography.

Its state in Spain,

77. In the XIIIth century literary pursuits became objects of some attention in Spain. The greater part of this kingdom had been long in the possession of the Moors. The history of that people has been grossly falsified by Christian writers, who have represented them as rude and barbarous, while they far surpassed other nations in the knowledge of the elegant arts. Geography, however, though cultivated by them, was not considerably improved. The Christian princes, who excelled them in war, endeavoured to emulate them in the arts of peace. The reign of Alphonso the wise was propitious to science. Under his patronage, the Alphonsine tables were constructed and published. But it has been observed,

served, that his attention to the heavens made him lose sight of the earth This was the fact, at least with regard to the study of geography, to which he did not apply.—Learned men appeared in other parts of Europe. Campanus and Sacrobosco were mathematicians and astronomers; Albertus Magnus was an expert logician; Roger Bacon was an astronomer, philosopher, mechanician, chemist, physician: but none of these was a geographer.

and in other parts of Europe.

78. While a spirit of commerce and of discovery revived in Italy, and some dawnings of science appeared in Spain, the ignorance of other nations is scarcely to be credited. The extremities of Europe seem to have been entirely unknown to those who inhabited its interiour provinces. Octher, a Norwegian navigator, towards the conclusion of the ninth century, sailed along the coast of Norway, doubled the North Cape, explored the eastern coast of Lapland, and proceeded to the mouth of the river Dwina, in Russia, where Archangel now stands. But, though he attentively surveyed, and circumstantially described those parts, yet all this information was soon lost; for in the eleventh century no vestige of it remained. Adam, canon of Bremen, speaking of Norway and Sweden, observes, "that they are two widely extended kingdoms of the north, hitherto al-"most unknown; and that eastward there are vast deserts and moun-"tains of sn w, where are found herds of monstrous men, together with "Amazons, baboons, and Cyclopes having one eye in their foreheads, "and animals with one foot, man-eaters without speech, &c." Among the islands of the Baltic, the same author mentions a very extensive one called Curland, and another called Eastland, whose inhabitants were savage. He describes Norway as reaching to the extremities of the north, along a tempestuous ocean, and terminating at the Riphean mountains, which he makes the boundary of the earth. And, speaking of the Orkney Islands, he observes, "that, according to common report, they lie "within one day's sail of either Scotland or England." Hence it is obvious

vious that the northern regions were almost totally unknown in that obscure period.

In the 14th century, Richard of Circenster, monk of Westminster, flourished, and was tolerably versed in ancient geography. An history and map of Roman Britain, composed by him, was found in Denmark, and published A. D. 1757 at Copenhagen. This work hath furnished antiquaries with some material information concerning the Roman history and geography of this island. It contains a distinct and accurate division of Britain into seven provinces, mentions several new tribes, and assigns stations to others who had been improperly placed by former writers. Richard of Circenster, 1340.

The first book contains eight, and the second two chapters. In the first five chapters, there are many curious particulars relating to the name, situation, and dimensions of the island,—its inhabitants, with their manners, customs, military affairs, religion, and government;—and lastly, the fertility of the soil, its product in grain, minerals, and metals.

In the sixth chapter, the whole island, which he calls Albion, is divided into seven provinces. The southern counties of England, bounded by the Thames, the Severn and the Channel are called *Britannia prima.* Wales, or rather all the country westward of the Severn and Dee, is denominated *Britannia secunda.* The middle and eastern countries between the Thames on the south, and the Humber and Mersey on the north, are distinguished by the name of *Flavia.* The northern counties, as far as the Roman Wall in Northumberland, he calls *Maxima.* The province between this wall and that of Antoninus in Scotland, is named *Valentia.* The country northward to the chain of lakes which lie across the island from the Murray Frith to Linnhe Loch, he styles *Vespasiana*: beyond which, in the northern part of the island, lies *Caledonia.*

In

In the seventh chapter are the names of 33 Roman cities and stations, together with 18 itinera or journies in various directions, across the island.

The eight chapter contains a description of Ireland, and some of the principal British islands. To all which is added a map of Britain and Ireland, representing what had been treated.

The second book relates to the chronology of some facts in the history of Britain, and contains an abridgement of the chief transactions of the Roman generals and legates in that island. The work is imperfect.

In the map and description he appears to have borrowed liberally from Ptolemy: yet there is one part of his work, viz. that including the Diaphragmata, which seems new and genuine. Here is a copious list of Roman places in succession in the several routes, with distances specified. These distances, however, are often inaccurate; or, at least, the places to which several stations are now supposed to refer, do not correspond to his itinerary.

Effect of the Crusades.

80. The martial expeditions into Palestine, undertaken on a religious account, facilitated a correspondence between the east and west, which subsisted during two centuries. The Christian powers collected vast armies, which they sent into Asia, for the purpose of emancipating the Holy-land from the dominion of infidels. Though the immediate design of these extravagant exploits was conquest, yet they contributed to correct the vague information concerning distant regions that had been derived from doubtful reports.

Maps.

81. Some partial discoveries notwithstanding, the science of geography was little cultivated during the middle age; and the art of constructing maps was then extremely rude and imperfect. At what period maps were first used in China is uncertain. Among the Arabians, who had eminent geographers in the 10th century, maps do not seem to have obtained

tained till two centuries after. Mr Greaves had a MSS. of Al-Edrissi's geography, written in the ancient African character, and furnished with elegant maps; but these, it is conjectured, were of a later date. The Arabic delineation among Archbishop Laud's MSS. in the Bodleian Library, gives the world the figure of a heart. It is said, that Gallus the tutelar saint of Switzerland, in the seventh century, had in his possession a map of the world of exquisite workmanship; and on a silver table, the property of Charlemagne, a map of the world was elegantly engraved, together with a plan of Constantinople, and a view of Rome. But of these delineations we have no particular account, to enable us to form a judgement concerning their excellence. In Passini's catalogue of the King of Sardinia's library at Turin, there is a curious map of the world, engraved from the original in a MSS. commentary on the Apocalypse, composed about the middle or end of the eight century. This map is agreeable to the old idea of the earth being an oval planisphere, divided into three unequal parts surrounded by sea.

Few maps are of earlier date than those in England. In several MSS. of Matthew Paris' history, some of which were written with his own hand, rude maps are delineated. Two of these are engraved in Gough's Topographical History of Britain and Ireland. Sir John Mandeville, who lived in the fourteenth century, mentions his own map of the world. A map of Great Britain and the adjacent islands, supposed to be drawn about the beginning of that century, is published by Gough in his Topography. The names are written from north to south, and the style is superior to any in that period. The roads and distances are laid down, a degree of perfection not found in any former map. In the library of Hereford Cathedral is preserved a curious map of the world in a case with folding doors. It is drawn with a pen on vellum fastened on boards, and is six feet four inches high, and five feet four inches wide. Jerusalem is the centre, and Scotland is represented as an island,

in which the names of seven towns and castles only are inserted. This map, a portion of which is engraved in Gough's Topography, anciently served for an altar piece in the cathedral.

As a farther proof of the imperfection of maps in the middle age, the following specimens are annexed.

N°. I. is a map of the world, copied from a MSS. written towards the conclusion of the 10th century, and now deposited in the Cottonian library. The names of places, as they stand in the original, would be unintelligible to most readers. Instead, therefore, of inserting them according to the hand-writing of the author, I have divided the map into squares, in each of which certain letters of the alphabet refer to an explanatory table.

N°. II. is a circular map, originally found in a MSS. of the Chroniques de St Denis. The three parts of the world then known are rudely delineated, with Jerusalem in the centre, and Alexandria no farther from it than Nazareth. This map, together with those of Palestine, Egypt, &c. was constructed about the year 1323 by Marino Sanuti for his history of the crusades, and engraved at the end of that work, in Vol. II. of Gesta dei per Francos. It cannot be later than the period now mentioned, for no notice is taken in it of the discoveries of Marco Polo, or of the Island of Madagascar.

N°. III. is copied from a MSS. in the Advocates Library, Edinburgh, inscribed Higdeni Ranulphi, Monach. Cistren. Polychronicon, a Mundi conditu ad ann. usque Christi 1328, pp. 221. A translation of this work, by Jo. Trevisa, A. D. 1387, is deposited in the College Library of Old Aberdeen.

EXPLANATION OF N°. I.

	Original.	*Translation.*
1st Square,	*a*, Gentes XLIV, – – *b*, Flumen, – – *c*, His abundant leones, –	Forty-four nations. A river. Here are many lions.
2d Square,	*a*, Taurini montes, – *b*, Mons aureus, – – *c*, India in qua sunt gentes XLIV, *d*, Fison flumen, – – *e*, Aracusia, *f*, Siria, – – *g*, In Abrobana x civitates. Bis in anno mensa fruges	The Taurinian Mountains. The Golden Mountain. India inhabited by forty-four nations. Fison river. Syria. In Abrobana are ten cities. Twice in a year they gather fruits.
3d Square,	*a*, Media, *b*, Nikvie, – – *c*, Persidia, – – *d*, Arabia, *e*, Cadueni, – – *f*, Chaldæa, *g*, Arabia Deserta, *h*, Mons Sinæ, – –	 Niniveh. Persia. A nation in Coria, a province of Asia Minor. Mount Sinai.
4th Square,	*a*, Hic dicitur esse mons super ardens, – – *b*, Flumen Nila,	Here is said to be a volcanic mountain. The river Nile.

N. B. The gulph in the 3d and 4th Square is the Red Sea; and the place of division at the bottom of the 4th Square indicates the part where the Israelites passed over.

Explanation of N°. I. *continued.*

	Original.	*Translation.*
5th Square,	*a*, Mare Caspium,	The Caspian Sea.
	b, Gog et Magog,	The names of two nations in Scythia.
	c, Montes Armeniæ,	The Armenian Mountains.
	d, Arca Noæ,	Noah's Ark.
	e, Turchi,	Turkestan.
	f, Albanorum regio,	The kingdom of Albania in Scythia.
	g, Armenia,	
	h, Griphorum gens,	People of Gryphon.
	i, Colchorum provincia,	Province of Colchis.
6th Square,	*a*, Mesopotamia,	
	b, Hiberia,	
	c, Babylonia,	
	d, Commagena,	
	e, Vocusa civitas,	The city of Vocusa.
	f, Bithinia,	
	g, Antiochia,	Antioch.
	h, Cæsaria,	
	i, Philippi,	
7th Square,	*a*, Moabitæ,	Moabites.
	b, Mons Fasga,	Mount Fasga.
	c, Mons Gulago,	Mount Gulago.
	d, Dimidia trib. Manaso,	The half tribe of Manasseh.
	e, Ruben,	The tribe of Reuben.
	f, Gad,	The tribe of Gad.
	g, Trib. Dan,	The tribe of Dan.
8th Square,	*a*, Egyptus Superior,	Upper Egypt.
	b, Ethiopica deserta,	The desert of Ethiopia.
	c, Philistea,	The land of the Philistines.
	d, Libia Ethiopia,	Lybia.
9th Square,	*a*, Meotides paludes,	The marshes of Meotides.
	b, Tanæ fluvium,	The river Tanais.
	c, Montes Ripori,	The Riporian Mountains.
	d, Fluvium Ypatus,	The river Ypatus.
	e, Naperfida,	
	f, Mesina,	
10th Square,	*a*, Mons Taurus	Mount Taurus.
	b, Cappadocia,—Isacircia,	The tribe of Issachar.
	c, Tribus Zabulon,	The tribe of Zabulon.
	d, Manasa,	Manasseh.
	e, Tharso Cilicia,	Tarsus in Cilicia.
	f, Mons Olympus,	Mount Olympus.
	g, Asia Minor,	Asia the less.
	h, Ephesus,	
	i, Troja,	Troy.
	k, Constantinopulum,	Constantinople.
	l, Attica,	Attica a province in Greece.

Explanation of N°. 1. *continued.*

	Original.	*Translation.*
11th Square,	*a*, Tribus Zabulon,	The tribe of Zabulon.
	b, Effraim,	The tribe of Ephraim.
	c, Galilea,	Galilee.
	d, Juericho,	Jericho.
	e, Asser,	The tribe of Asser.
	f, Aniclea,	A city between the south extremity of the dead sea and the Mediterranean.
	g, Hierusalem,	Jerusalem.
12th Square,	*a*, Ebron,	Hebron.
	b, Pentapolis,	Perhaps, Tripolis.
	c, Bethlaem,	Bethlehem.
	d, Neptalim,	Nepthalim.
	e, Alexandria,	A city in Egypt.
	f, Mons,	A mountain.
	g, Anticlea,	
	h, Libia Cirinania,	
	i, Lac. Calearsum,	The lake of Calearsum.
	k, Hic barbari gentes,	Here is a barbarous nation
	l, Hic Ethiopii,	This territory is inhabited by the Ethiopians.
	m, Hic oberant Gingitis et Ethiopii,	Here wander the Gengites and Ethiopians.
13th Square,	*a*, Island,	Iceland.
	b, Scrodusinuas,	Near the extremity of Iceland.
	c, Balgari,	Bulgari.
	d, Dacia ubi et Gothia,	Dacia and Gothland.
	e, Salacu,	
	f, Slesne,	
	g, Thraeia,	
14th Square,	*a*, Hunorum gens,	The Huns.
	b, Danubius fluv.	The river Danube.
	c, Dalmatia,	
	d, Panonia,	
	e, Histria,	Istria.
	f, Athenas,	The City of Athens.
	g, Verona,	
	h, Paccia,	Perhaps, Padua.
	i, Roma,	The City of Rome.
15th Square,	*a*, Macedonia,	
	b, Salernaria,	Salernam belonging to Naples.
	c, Venacia,	Venice.
	d, Cartago Magna,	The City of Carthage.

Explanation of N°. I. *continued.*

	Original.	*Translation.*
16th Square,	*a*, Pentapolis, *b*, Sutes, *c*, Lac. Saliciarnus, – – *d*, Libia Ethiopium, *e*, Bizacena, *f*, Gentes Aucolum usq. ad Oceanum, – – } *g*, Cinocephales *h*, Cartago Magna – *i*, Zugis regio – –	The Lake of Saliciarnus. The territory of the Aucoles extending to the Sea. The greater Carthage. The Kingdom of Zugis.
17th Square,	*a*, Britania, – – – *b*, Hibernia, – – *c*, Tyleri, N. B. The rest of the names in this division are almost erased.	Britain. Ireland.
18th Square,	*a*, Lundonia, – – *b*, Wintonia, – – – *c*, Cantia, – – *d*, Suth-bryttas, – – *e*, Bartiminacus, *f*, Ispania Anterior, – – *g*, Brigantia, – – –	London. Winchester. Kent. South Britons. Anterior Spain. Portugal.
19th Square,	*a*, Montes VII. – – *b*, Hesperidum civit. – – *c*, Mons, – – –	Seven Mountains. The City of Hesperides. A Mountain.
20th Square,	*a*, Mauritania, *b*, Fluv. Malva, – – *c*, Dora, – – – *d*, Mons Isperae, – –	 The river Malva. Mount Isperae.

A copy of Fra. Mauro's celebrated map, in the Monastery of St Michael di Murano at Venice, was lately transmitted to England, and deposited in the British Museum. This planisphere, or map of the known world, appears to have been constructed A. D. 1459. It is circular, six feet and seven inches English in diameter, and environed by the ocean. The centre is Bagdad; but no latitudes nor longitudes are applied. Several European countries are projected in tolerable proportion; but the eastern parts of Asia are strangely distorted. Beyond Aria, in Turkestan, there is a city called Tharsus, which the author distinguishes as the residence of the Magi. The direction which he gives to the Indus, the Ganges, and other Asiatic rivers, betrays consummate ignorance: and some of the courses of those rivers seem to have been altered and retraced by a subsequent projector little better informed. The northern region of Africa is crowded with cities, many of which are placed on the tract now called the desert of Sahara. Adjacent to the southern coast of the African continent, but separated from it by an arm of the sea, is a large island of a triangular form, called Diab: but whether this is meant to represent the Zanguebar of Marco Polo, or Madagascar, is uncertain.—A variety of remarks is inscribed on the map. At Cape Diab the following observation is inserted, viz. "that nothing ever passed it." But, in another passage, it is said, "that an Indian ship, A. D. 1420, was, in the "space of 40 days, carried 2000 miles to the westward, and was 70 "days in returning to the Cape:" and elsewhere it is stated, "that the "ship was carried 2000 miles beyond the Cape of Soffala, towards the "west and south-west." In a fourth rubrick, it is observed, that "the "Portuguese, in 1459, sailed 2000 miles southward beyond the Straits "of Gibraltar:"—whence the author of this paragraph infers,—"that "the sea encompassing the southern and south-western part of the world "is navigable, and that the Indian Sea is an ocean, and not a lake."—Many other curious remarks are inserted in this map; some of which, perhaps,

perhaps, were added at a period posterior to its original construction. The reader, who is desirous of further information concerning it, may consult an ingenious memoir composed by the learned Dr Vincent, and annexed to the second edition of his *Periplus of the Erythrean Sea*, a work of singular merit.

Explored by travellers.

82. The eastern parts of Asia were still unexplored. Encouraged by the intercourse now carried on between Europe and the western provinces of Asia, several travellers, from motives of curiosity or of interest, penetrated into regions more distant than those which had been visited by the Crusaders; and, on their return, astonished Europe with intelligence concerning countries more extensive, more fertile, and more populous than any hitherto known to the western world.

Benjamin of Tudela, A.D.1160.

83. Benjamin, a Jew of Tudela in Spain, relying on the reports which then prevailed relating to the prosperity of his brethren in the east, undertook a long and dangerous journey, in order to be an eye witness of their opulence and grandeur. He departed from Saragosso A. D. 1160. At Marseilles he embarked for Genoa, and proceeded to Rome. Having traversed the kingdom of Naples to Otranto, he sailed thence to Corfu, and passed through Greece and Romania to Constantinople. Directing his course southward, he arrived at Tyre. Having visited several places in Palestine, he proceeded eastward to Balbeck, Tadmor, Bagdat, Bozza, &c. After a partial survey of Media and Persia, he returned to Chusistan, through which the Tigris flows. Embarking at Oulam, in twenty-two days he arrived at the islands of Cinrag; whence he was informed, a traveller, in the space of forty days, might reach the confines of China. His peregrinations extended eastward no further than Cape Comorin, or some place at no great distance from it. Thence he sailed to the African coast. Travelling northward through Ethiopia, Abyssinia, Nubia, and Egypt, he returned to Spain A. D. 1173. Though he was disappointed as to the principal object of his journey, yet he obtained much information

tion concerning countries then unknown to Europeans. The travels published by this zealous Jew appear in many parts to be fabulous, and nothing more than a pretended tour composed to confirm his brethren in their obstinacy and impenitence: at least it is evident that he has described things which he never saw, and which existed only in his own imagination. There can be no doubt, however, that he visited the countries which he mentions, as he has recorded many particulars concerning them which were not formerly known, and have been authenticated by succeeding travellers.

Mission of Monks to Tartary.

84. The zeal and arrogance of Innocent IV. likewise contributed to the discovery of the interior regions of Asia. During the space of several centuries, the christian religion had flourished in eastern Tartary under the patronage of princes distinguished by the appellation of Ung-chan. Gengischan, the renowned conqueror of Asia, declared war against the last prince of that dynasty, and deprived him of his kingdom and life, A. D. 1202. The rapidity and success with which the successors of Gengis carried on their schemes of ambition and of conquest, alarmed and astonished all the powers in Europe. To stop the progress of the Tartar arms, a mission, composed of Franciscan and Dominican monks, was sent to exhort Kayukchan, his grandson, to desist from hostilities, and embrace the christian faith. The mission, as might have been foreseen, was treated with contempt: but the missionaries had an opportunity of visiting great part of Asia; the Franciscans having traversed the northern provinces of Russia to the confines of Thibet, and the Dominicans having passed through Syria and Persia.

Travels of Rubruquis, A. D. 1253.

85. Not long after the return of those missionaries, Louis IX. of France employed William de Rubruquis on an embassy to Mangu, the third Chan in succession from Gengis. The course of this monk was as follows: Embarking at Constantinople, he sailed along the Euxine to Port Caffa. Thence he travelled through Crim Tartary, visited the coun-

try of Bolgar, and arrived at Carcaram, the residence of the Chan, in the territories of the Kalmuks, about 50° N. latitude, and higher than Chinese Tartary. Having delivered his embassy, he returned through the deserts of great Tartary, and the country of the Moguls; proceeded along the north coast of the Caspian Sea, which he affirms to be neither a bay nor a gulf of the northern ocean; passed the river Volga where it is divided into seven branches; journied southward between the Caspian and Euxine Seas; crossed the rivers Cyrus, Araxes, and Euphrates at Kamath; travelled through Cappadocia to Iconium, and thence to Cyprus, Antioch, Tripoli, &c. In this extensive circuit, he visited many interior parts of Asia, not hitherto explored by any European.

Marco Polo, 1270.

86. Other travellers, with commercial views, penetrated into the most distant regions of the east. Towards the conclusion of the thirteenth century, Marco Polo, in a mercantile perigrination of twenty-six years, visited the chief trading cities of Asia. Having surveyed Armenia and Persia, he took his route across some high mountains to Smarcand. Thence he passed through the provinces of Cascha, Cotam, and Piam in Turkestan: and traversing the deserts of Lop, he arrived at Campion, the capital of Tangut, the eastern boundary of which lies within forty days journey of the ocean. He proceeded to Cathai, which some geographers have placed on the confines of China, but which is now understood to have been the northern province of that empire, the capital of which he calls Cambalu, or Khan-balek, *i. e.* the imperial city, or Peking. He returned through the provinces of Thibet, Caindu, Caraian, Mein, &c. In the course of several voyages he visited the island of Ceylon, the coast of Malabar, different parts of Indostan, and is the first who mentions Bengal and Guzerat by their present names. Some information he likewise obtained concerning countries and islands which he did not visit. His reports of the extent and opulence of those eastern nations, at once astonished his countrymen and increased their geographical

cal knowledge. A map of Polo's travels, copied from one he had delineated on his return from Tartary, was found in a church near Venice. In this map the sea surrounds the extremity of Africa, and many other particulars are noted which were unknown to the ancients, and which Polo must have received from the Malays, or Arabs, who were the only navigators of the Indian ocean in his age.

87. Two important events, which happened in the fifteenth century, contributed to the improvement of this science. 1. When Constantinople became the seat of the Ottoman empire A. D. 1453, the Greeks, who fled from the insolence and oppression of despotism, retired westward, and carried along with them the ancient authors they had carefully collected and preserved, together with the productions of the Arabs: so that by their means, and by the migrations of the Jews, those works, which would have perished in the hands of the illiterate Turk, were introduced into several European kingdoms, were read and admired. Invention of the mariner's compass.

2. While a spirit of adventure and discovery, accompanied with a desire of knowledge, was diffusing itself throughout Europe, the invention of the *Mariner's Compass* greatly facilitated an intercourse between the most distant nations. The wonderful stone, now called the magnet, and found in many parts of the world, was known to the ancients, and distinguished by different appellations, chiefly derived from the places where it was found, viz. Lydia, Heraclea, Magnesia, India, &c. Some of its properties were described; and powers were attributed to it which it never possessed. Pliny (L. II. c. 96.) observes, that near the river Indus there are two mountains; on the one of which, a person having iron in his shoes cannot stand, and from the other he cannot remove. Ptolemy (L. VII. c. 2.) informs us, that in the neighbourhood of Aurea Chersonesus, there are ten islands called Insulæ Maniolæ, where ships are stopped in their course by the powerful attraction of magnetic rocks. In the ocean, near the pole, immense masses of magnet were supposed to be fixed, and

were accordingly inserted in maps constructed as recently as the beginning of last century (see Mercator's and Hondius's maps). But none of the ancients seem to have been acquainted with the virtue, which, when communicated to a slender rod of iron, directs its extremities to the poles of the earth. It has been affirmed that the Arabs made use of the compass in their voyages to India and China, and therefore must have known the properties of the magnet. But if this were the fact, it is surprising that a name for the compass is not to be found in the Arabian, Persian, or Turkish languages. The eastern nations call it Bussola, an Italian word, which is a proof that the idea of this instrument was derived from the Portuguese. It is more surprising still that they know not how to construct a compass, and purchase all they use from Europeans. The polarity of the magnetic needle is said to have been known to the Chinese at a very early period; notwithstanding, it does not appear that they made any use of it in navigation. They were strangers to many islands at no great distance from China, until the Europeans pointed them out. Their longest voyages were to Java, Sumatra, and Cochinchina; and thither their course was indirect. This useful instrument was the invention of Flavio Gioia of Amalfi in the kingdom of Naples, about the year 1302: but no particular account has been transmitted of the manner and circumstances of this important discovery. It is probable that this, as well as many other inventions, was not at once completed, but was gradually matured and brought to perfection.

Though the directive power of the magnetical needle was discovered at the period above mentioned, and applied to navigation, yet it does not appear that during the fourteenth and fifteenth centuries there was any apprehension of its pointing other ways than due south and north: and when it was observed not to do so, this deviation was attributed to some error or defect in the construction of the instrument, and not to any thing real in nature. The variation of the compass is said to have been first

first perceived by Columbus, Aug. 3. 1492, in his voyage for the discovery of that part of the globe now called the West Indies. Sebastian Cabot, about the year 1497, discovered this variation to be real; but supposed that it was uniformly the same, in the same place, in all ages. Afterwards, it was found to be different at different times in the same place; and this is called the variation of the variation, the discovery of which is attributed to Mr Gellibrand at Gresham College, about A. D. 1625. There is another remarkable property belonging to the magnetic needle, which it may be proper to mention. When it is poised in the exactest manner possible, so as to lie horizontally on the pin that supports it, yet, upon touching it with the loadstone, it will lose its equilibrium, and one end will incline toward the earth. This property is said to have been the discovery of Robert Norman, a compass-maker at Wapping, a suburb of London, about A. D. 1576. As the horizontal needle has different degrees of variation, or declination from the meridian at different places, so the angle made with the perpendicular by the dipping needle, at different places, is found to be different. A certain horary inequality has been also observed both in the variation and dip of the magnetic needle, at one and the same place, and that so far as $\frac{1}{2}$ or $\frac{2}{3}$ of a degree.

88. Little use was made of the compass for the space of half a century. The first bold and regular efforts in navigation were those of the Portuguese. The origin, progress, and success of their naval operations, together with the discovery of the western world by Columbus, have been diligently and judiciously traced by a modern historian (Robertson's History of America, Vol. I.). " The long reign of ignorance, the con- " stant enemy of every curious enquiry," says this elegant writer, " was " now approaching to its period. The light of science began to dawn. " The works of the ancient Greeks and Romans began to be read with " admiration and profit. The sciences cultivated by the Arabs were " introduced into Europe by the Moors settled in Spain and Portugal, " and

The compass first used by the Portuguese.

" and by the Jews who were very numerous in both these kingdoms.
" Geometry, astronomy, and geography, the sciences on which the art
" of navigation is founded, became objects of studious attention. The
" memory of the discoveries made by the ancients began to be revived,
" and the progress of their navigation and commerce began to be traced."

Few eminent geographers in the middle age.

89. Soon after the revival of learning in Europe, many geographers flourished: but of their numerous productions by far the greater part, containing no information of importance, has been long consigned to oblivion. In a general view of the progress of geography, it may be sufficient to mention a few of those who have been distinguished by their industry and success.

Geography taught by the Arabs.

90. The Saracens, or Arabs, in the middle age, cultivated the science of geography; and from them the Europeans derived some information concerning it. As early as the twelfth century, we hear of monks travelling from distant countries into Spain and Africa to learn geography. It does not, however, appear that any considerable improvements were made during the space of several centuries. Scholastic theology, the civil and canon law, and the Aristotelian philosophy, diverted the attention of that unenlightened period from every useful pursuit.

Geographers in the 15th century.

91. By means of the art of printing, discovered in the fifteenth century, the most valuable Greek and Latin works, which for many ages had been concealed in monasteries, were brought to light, and disseminated throughout Europe. The art of engraving in wood had been some time in use before the invention of printing. Albert Durer, who flourished in the middle of the fifteenth century, was, perhaps, the first artist who employed copper plates for this purpose. The superior beauty and elegance of his engravings induced others to follow his example. Francis Berlinghieri of Florence, A. D. 1470, published an Italian poem in six books, containing an explanation of Ptolemy's geography, illustrated with maps engraved on copper.

In

In 1487, the King of Portugal sent John Pedreio de Covilham and Alonzo de Payva to discover India by land; and on the same service he employed two Jews, Abraham of Beja and Joseph of Lamego. Covilham, versed in the Arabic language and a man of enterprise, departed from Lisbon, and visited Barcelona, Naples, Rhodes, and Alexandria, in his route to Cairo. Joining a party of Moors, he proceeded eastward to Tor, Suakem, and Aden, when he embarked for Cananore on the Malabar coast. Having surveyed Calicut, Goa, and Ormuz at the mouth of the Persian Gulph, he returned to the coast of Africa. From Zeila he sailed southward to Sofala on that coast; and received information that the sea was navigable to the south-west, and that to the eastward there was a large island called the island of the Moon, the same with Madagascar. Upon his arrival at Cairo, he transmitted to the King a detail of his travels and discoveries, together with a map which had been constructed for his use, and which he had corrected and improved. Afterwards he penetrated into Abyssinia, where he was induced by the sovereign of that country to remain.

In the conclusion of the fifteenth, and beginning of the sixteenth, century, several geographers of eminence appeared. Antonio de Lebrija in Spain compiled a cosmography of some estimation. Dominico Mario Nigro, a Venetian, was the author of a geographical work in twenty-six books; of which Europe occupied eleven, Asia the same number, and Africa four. Peter Appian of Lausnich, in Misnia, composed a cosmography which was favourably received. Bernard Silvain of Evoli, in Naples, published an edition of Ptolemy's geography, with maps corrected according to recent discoveries. James Castaldo of Piedmont, A. D. 1550, constructed maps of the world, of Asia, Africa, Europe, and several kingdoms, relying chiefly on the authority of Abulfeda. Soon after were announced, the Fabrica del Mondo of Anania, the geography of Louis Texeira, the works of Jerom Roman, of John Segura, &c.

&c. But those productions extracted from Greek and Arabic authors, and from the reports of credulous and ill informed travellers, are now unknown to the greater part of readers, and are seldom consulted by the learned.

The most eminent geographers in the sixteenth century were Munster, Mercator, Ortelius, and Maginus.

Munster, 1550. Sebastian Munster, born at Ingelheim A. D. 1489, was professor of Hebrew at Basil. In the year 1550, he published a cosmographia, in six books, and 1333 folio pages. This work, dedicated to Charles V. Emperor of Germany, is introduced by an abridgement of the first book of Ptolemy's geography, together with some general observations concerning the form and magnitude of the earth, whose circumference is computed to be 5400 German miles. In the second, third, and fourth books, the European states and kingdoms are described. Book fifth treats of Asia and America; and the sixth of Africa. The descriptions of places are circumstantial and ingenious, but inaccurate; and the maps, which have no degrees of longitude or latitude, nor any proportion in their parts, are the rudest that can be conceived. The account of Germany is the most valuable portion of this cosmography. In tracing the origin of cities and of kingdoms, the author has frequent recourse to fiction and fable. He supposes the Caspian Sea and the Persian Gulph to extend from west to east, and not from south to north. His description of India is very superficial, and his detail concerning Africa is collected chiefly from the ancients. America was then imperfectly known; but curious relations are given of the voyages of Columbus and other navigators. All its imperfections and errors notwithstanding, this work displays great ingenuity and industry; and many observations, remarks, and anecdotes occur, that merit the attention of those who study the history of the period in which it was composed.

Gerard

Gerard Mercator, the contemporary of Munster, applied to the study of astronomy and geography with unremitting assiduity and singular success. He was born at Ruremonde A. D. 1512. At Louvain, in 1549, he published a map of Palestine, and soon after one of Flanders which he had engraved. He presented to Charles V. two small globes, one of which was crystal, and the other wood. On the former he traced with a diamond the zodiac and the principal constellations: and on the latter he delineated the surface of the earth. His next production was a map of Europe, the northern regions of which he constructed according to the idea of Olaus Magnus, who had published, A. D. 1555, a history of those parts, replete with much important information, and with fables. His edition of Ptolemy's tables was received with universal approbation. In the year 1585, he finished an atlas, consisting of maps of France and Germany; and afterwards added several maps of Italy. Having discovered many imperfections and errors in the history of Olaus, he undertook a description of the northern regions of Europe; but was prevented by death from the completion of his design. Mercator, 1550.

The atlas distinguished by his name, is the work of his two sons Gerard and Romaldus, in concert with Iodocus Hondius an eminent cosmographer and engraver. The construction of Mercator's maps will be considered in a subsequent part of this dissertation. It is curious to remark, that, with all his geographical knowledge, Mercator supposed an huge rock to be situated in a large bason at the north pole, whence four arms or branches extended, two of which were inhabited by pigmies four feet in height. The belief of such fables was not uncommon among the learned in that period.

Abraham Ortelius of Antwerp, coeval with Mercator, was equally distinguished by his learning and his labours. The *Theatre* of the *World*, and the Universal Dictionary, which he composed, are proofs of his extensive knowledge and profound erudition. The preface to the former Ortelius, 1570.

of those works is a judicious performance: but it must be observed that the author's information is not always accurate. His researches were confined to ancient geography; and Greek and Latin writers only were consulted. Of the geography of the middle age he had little knowledge, and with what is called mathematical geography he seems to have been unacquainted.

Maginus, 1595.

John Anthony Maginus, professor of mathematics at Bologna, A. D. 1595, published a system of ancient and modern geography in two volumes; the first of which contains a translation of Ptolemy's work, with a judicious commentary, illustrated by twenty-seven maps: and the second comprehends a description of the actual state of all kingdoms, accompanied with thirty-seven maps. The historical part of this work abounds in the marvellous, and the maps are extremely defective and incorrect. Constantinople, according to Maginus, is 56° E. longitude from Ferro, whereas its true longitude does not exceed 46° 35′. He supposes the Cape of Good Hope to be 45° S. latitude instead of 34° nearly. Romania Point in Malaye is 122°, but by the computation of this geographer it is 155° E. longitude. The idea conceived by the ancients of the form of the Caspian Sea is adopted. The delineation of the East Indies and adjacent islands bears little resemblance to the true figure and proportion of those parts. The extent of South America in 20° S. latitude is computed to be 55 instead of 31 degrees, and in 40° S. latitude to be 50 instead of 14 degrees. The western American coast is supposed to approach Japan; and Terra del Fuego is reckoned part of the great southern continent. These are material errors; but they are not to be imputed so much to the author as to the age in which he flourished.

Ferrari, 1605.

Ferrari, professor of mathematics in Pavia, A. D. 1605, published an epitome of geography in 4to. He likewise compiled a geographical dictionary, which appeared after his death. This work supplies the defects of

of Ortelius, as far as it contains something of modern geography; but in what relates to ancient geography it is inferior to the productions of that author. The corrections and additions of M. Baudrand abound in errors; and his quotations from the ancients are often false.

Cluvier, 1610.

Many eminent geographers flourished during the seventeenth century. Philip Cluvier, or Cluwer, of Dantzic, distinguished himself in this science. Relinquishing the study of law, he devoted his leisure and abilities to geography. He spoke ten languages with facility; visited many countries in Europe, and noted whatever was worthy of observation. He published a map of ancient Italy A. D. 1603, and soon after his learned disquisition on the mouths of the Nile. Germania Antiqua, 2 vols. fol. and Italia, Sardinia, et Corsica Antiqua, 3 vols. fol. are works replete with erudition. They contain more accurate descriptions of the ancient state of those countries, and of their respective tribes, than are to be found in any production ancient or modern. He meditated an account of ancient Gaul and Greece: but his premature death A. D. 1623, in the 43d year of his age, deprived the republic of letters of a work that might have been equally useful and entertaining. His introduction to ancient and modern geography, which exhibits a view of every state and kingdom, has been translated into several languages, and illustrated with the annotations and commentaries of Bruno, Hekelius, Reiskius, and other learned men.

Cambden, 1586.

All that Cluvier was in Germany, Cambden is acknowledged to have been in Britain, of which he is styled the Strabo, the Varro, and the Pausanias. This profound antiquary was born in London A. D. 1551. His chief production is Britannia Illustrata; a work truly original, and the source whence all succeeding antiquaries have derived their information concerning this kingdom. Published A. D. 1586, it met with so favourable a reception, that, in the space of four years, there were three editions of it at London, two in Germany, and another in London,

A. D. 1594. This work is the result of his observations in several tours through various parts of the kingdom, of his researches into the MSS. collections of our own writers, and the publications of foreigners. It was translated by Philip Holland in 1610, and by Bishop Gibson, in 1694, with large additions. The edition lately published by Gough, in three vols. folio, is the most complete. To explore the antiquities of his own country, Cambden applied under many disadvantages; but these he surmounted, and enjoyed the rare felicity of finishing a work that has never been excelled in any language. His account of Scotland and Ireland is very concise, and contains little else than etymological and genealogical disquisitions.

The success of Cluvier and of Cambden incited other learned men to engage in the study of geography. Many descriptions and maps of particular kingdoms were the result of their researches and labours. Mat. Merian of Frankfort, A. D. 1637—1654, published a topography of Germany in five vols. folio, accompanied with maps. This work is sufficiently methodical and tolerably accurate, but displays neither the ingenuity nor erudition of those whom he emulated. William Blaeu, or Janson, the friend of Tycho Brahe, constructed an atlas in three vols. fol. A. D. 1638, which met a favourable reception. An edition in 14 vols. fol. was published in 1663, by John and Cornelius, who maintained the great reputation their father had justly acquired. About the same time, by the command of Charles IX. Andrew Buroeus undertook to reform the Swedish geography. After much observation and labour, he produced a general map of Sweden in 1626, which, in point of accuracy, excelled all delineations of this kind that hitherto had appeared.

Merian, 1637.

Blaeu.

Buroeus.

If the positions of all the capital points were fixed by astronomical observations, and if the intermediate distances were geometrically ascertained, the construction of an exact map would be easily effected: but if these essentials are wanting, no attention or industry can supply the defect.

defect. The longitudes of places, during this period, were not determined with any degree of precision. The observers of latitudes were few, and for the most part were stationed in the principal towns of Europe. The positions of many cities, the courses of rivers, and the forms of sea-coasts, were imperfectly ascertained, by the rude estimates of travellers, the vague computations of journalists, and the incorrect observations of navigators. By itinerary measures, the ancients reckoned the distances of places with some precision: but the measures of the moderns, being more various and differing widely one from another, have not obtained an equal degree of estimation.

Sanson, 1650.

Nicolas Sanson was deemed an eminent geographer; but his maps are inaccurate, owing partly to the circumstances already mentioned, and partly to his own inattention. He was not furnished with a competent number of observations, nor sufficiently profound in his researches. He copied some of Ptolemy's errors, and added many of his own. He was too precipitate in his compositions, and too careless in correcting the works he had published. The source of the Nile is fixed under the tropic of Capricorn. The Mediterranean Sea and the adjacent countries are extended beyond their just dimensions. India, Tartary, and China, are not delineated according to their proper forms and proportions. The labours of Sanson terminated with his life, A. D. 1667. Two of his sons succeeded to his fame, and composed several treatises on geography.

Bochart, 1646.

Samuel Bochart, the most learned man in the world, flourished in the middle of the seventeenth century, and promoted geographical knowledge, by the publication of *Phaleg*, or *Geographia sacra*, a work of singular ingenuity and immense erudition. The first part of this work, in four books, contains variety of critical inquiries relating to the dispersion, migrations, and settlements of the descendants of Noah.

In

In the first book, the author illustrates the history of Noah and his family, endeavours to ascertain the place where the ark rested after the universal deluge, and treats the construction of Babel in the Plain of Shinaar, the confusion of tongues, and consequent dispersion of mankind.

In book second, the several colonies of the posterity of Shem are traced in Assyria Propria, Chaldæa, Elymais, Armenia, Mesopotamia, part of Asia Minor, Arabia Felix, &c.

Book third comprehends a survey of the settlements of Japhet's family in Media, Iberia, Moschica, Tibarenia, Cappadocia, Paphlagonia, Phrygia, Thracia, Græcia, Italia, Gallia, &c.

In book fourth it is proved that the offspring of Ham peopled Egypt and the whole of Africa, together with part of Syria, Arabia, &c.

The second part, in two books, treats of the Phœnician colonies settled in different parts of the earth.

In the investigation of facts, the principles upon which the author seems to have proceeded are as follows:

1. A particular colony may be traced by a resemblance of names. The Medi are evidently derived from Madai, the Jones from Javan, the Thraces from Thiras, &c.

2. By the proper meaning of terms, it sometimes appears that different names relate to one and the same place, tribe, or nation. Thebes was called No-Ammon, from the Temple of Ammon. Sihor, an appellation of the Nile, was derived from the blackness of its water. Ethiopia and Lydia were called Lud, i. e. a country pervaded by a serpentine river.

3. By comparing the various accounts of ancient writers, it is often found that the same country was described under different names. Hara, or Aria, was the same with Media; Madian was Chusan, &c.

4. The characters of nations, exhibited in ancient history, ascertain the places of their settlement. "The Phutæi that handle the shield," Jer. xlvi.

xlvi. 9. i. e. the Lybians who use the arms of the Egyptians. "The "people of Gog come out of the north parts, riding upon horses," Ezek. xxxviii. 15. To the Scythian nations these circumstances are evidently applicable, and of them alone are to be understood. "I will break the "bow of Elam," Jer. xlix. 35. This relates to the Persians who were distinguished by their skill in archery.

5. A nominal ambiguity is sometimes removed by a specification of the products of a country. The Tyrians brought from Tarsus, silver, "iron, tin, and lead."—Ezek. xxvii. 12. This cannot refer to Tarsus in Cilicia, but to Tartessus in Spain where those metals abounded.—"They of the house of Togarmah traded with horses and mules."—Ezek. xxviii. 14. Togarmah could not be Turcomania, nor any part of Scythia, but Cappadocia in Asia Minor. "The Jews imported frankincense "from Sheba,—Jer. vi. 20."—viz. from Arabia, the region of perfumes.

6. When two or more nations are classed together, their vicinity is generally understood. The sacred writers makes mention of Madai and Elam, of Madai and Paras, of Chus and Misraim, of Mesech and Tubal, &c.

7. The arrangement of names sometimes indicates the order of settlements. Ex. gr. Magog, Ros, Mesech, and Tubal, *i. e.* Iberia, Araxene, Moschica, and Tibarenia. Migdol, Taphnes, Noph, and Pathros; *i. e.* Magdolos, Daphniæ Peluciæ, Memphis, and Thebais,—Jer. xliv. 1. In this work, the learned author has displayed uncommon abilities. Strained and fanciful etymologies are sometimes adopted; inconclusive arguments are not seldom introduced; and inferences are drawn from doubtful and even from false principles. But all its imperfections notwithstanding, it may be considered as the most profound geographical production that has ever appeared; and will be held in estimation as long as any relish for disquisitions of this nature subsists among mankind.

Philip

Briet, 1650. Philip Briet of Abbeville, librarian of the college of Paris, A. D. 1648, published *Parallela Geographiæ veteris et novæ*, in 3 tomes 4to.; a work methodical and exact, accompanied with maps of little estimation. The author divides this comparative view of ancient and modern geography into three parts. The first part treats the elements of this science, and the western regions of Europe, viz. Great Britain, Ireland, Spain, and France. The second part, contained in the second and third volumes, is a description of Germany, Scandinavia, Sarmatia, Illyricum, Greece, and Italy. The third part, relating to Asia, Africa, and America, has never been published. To give the reader a more precise idea of this work, I shall lay before him the contents of a particular kingdom.—*Hispania antiqua et recentior* occupies the fourth and fifth books. Ancient Spain is described, B. IV. c. 1. by its several names,—figure,—magnitude,—soil,—wealth and population,—manners of the inhabitants,—form of government, and language. Then follow the designations and characters of the tribes, among whom it was divided at the time of the Roman conquest, together with the names of cities and towns belonging to every tribe; to which is annexed the division of the country into seven provinces, during the reign of Constantine. The fifth book, contains a description of modern Spain,—its name,---extent---quality,---religion,---manners,---language,---productions,---government; and a survey of the several provinces, with the names of various towns in every province.

Some essential defects in this plan are obvious. No illustration of the physical part of geography is attempted: no detail of rivers and mountains is given: and nothing is mentioned concerning the subdivision of provinces, except the names of places. This work, however, though little more than an analysis, has considerable merit; and succeeding writers on the same subject have been greatly indebted to the industry of the learned Jesuit.

The

The contemporary of Bochart and of Briet was John Baptist Riccioli of Ferrara, an eminent astronomer and mathematician. Sensible of the imperfect state of geography, this Jesuit attempted to reform it by the aid of astronomy. With this view, he published *Geographia et Hydrographia reformata*, A. D. 1661, in twelve books. Riccioli, 1661.

The title of every book is expressive of its subject.

Book first, styled *liber Isagogicus*, is introductory, and treats of the general division of the earth and ocean.---Book second is entituled *Stadiasmicus*, as it relates to the measures of the ancients and moderns.---Book third, or *Periegeticus*, contains an account of the extent of countries, together with their itinerary distances.---Book fourth, *Geodæticus*, treats of geometrical mensuration.---Book fifth, *Geometricus*, exhibits various modes of measuring a degree of latitude, and of computing the earth's circumference and magnitude.---Book sixth, *Altimetricus*, illustrates the art of measuring structures, mountains, clouds, &c.---Book seventh, *Geoplaticus*, relates to polar altitudes, the latitudes of places, climates, &c.---Book eight, *Geomecographus*, prescribes several methods of ascertaining the longitudes of places.---Book ninth, *Mecoplaticus*, contains a table of the longitudes and latitudes of places, together with a detail of first meridians, adopted by ancient and modern geographers.---Book tenth, *Hydrographicus*, comprehends the doctrine of tides, an account of promontories, bays, harbours, and the art of navigation illustrated.---Book eleventh, *Onomasticus*, is a copious list of names of places alphabetically arranged.---Book twelfth, *Synopticus*, treats of the construction and use of an instrument called the geographical cross: to which is added an appendix containing a computation of the number of inhabitants in every kingdom, the amount of which is supposed not to exceed a thousand millions.---These various subjects are elucidated in a judicious and methodical manner; though the illustrations are sometimes tediously circumstantial and minute. A proper abridgement of this work, corrected and improved by recent

recent astronomical observations, would no doubt receive universal approbation.

Cellarius, 1690.

The ancient state of several kingdoms had been exhibited; but no system of geography had hitherto appeared. Cluvier had described Germany, Italy, and Sicily; Cambden Great Britain; Valesius and Sanson, Gaul; Palmerius great part of Greece; and Briet the whole of Europe: but no writer of eminence had completed a survey of the globe. This arduous work was reserved for Christopher Cellarius, who performed it with fidelity and exactness A. D. 1703, in 2 vols. 4to. entitled *Notitia orbisan tiqui.* After the manner of Cluvier, the passages of ancient authors are quoted. But, as the plan of that work descends no lower than the reign of Constantine, the geography of the middle and lower ages is entirely wanting. Cellarius was born at Smalcalde A. D. 1638; taught history and eloquence at Hall in Saxony; and died A. D. 1707.

Scherer, 1690.

Toward the conclusion of the seventeenth century, P. Henry Scherer, a Jesuit, published an atlas, or universal geography in four parts. The first part relates to the formation of the earth. The second contains the principal places consecrated to the Virgin Mary. Civil, or political geography, is the subject of the third division; and in the last mathematical geography is explained and illustrated. This work displays much erudition, and little ingenuity. It contains many things obsolete, and many precepts inconsistent with the principles of geometry. The general plan is good; but the execution is below mediocrity.

Geography improved in the XVIII century.

The commencement of the eighteenth century may be considered as the epoch of the reformation of geography. The most essential improvements originated in France. Societies were formed, voyages were undertaken by order of the sovereign, accurate observations and surveys were made; the result of which was an almost geometrical knowledge of many parts of the globe. The labours of Picard, La Hire, Cassini, Maupertuis, &c. will hereafter fall under our review.

The

The productions of Ferrarius and of Baudrand, not answering the public expectation, M. Thomas Corneille, distinguished by his poetical and grammatical works, no less than by his theatre, which he composed in concert with Peter Corneille his brother, published, A. D. 1708, a geographical dictionary, the plan of which is extensive and judicious. It comprehends ancient and modern geography, and includes the manners, commerce, arts, and other particularities of every community; together with the natural products, animals, cities, &c. of every kingdom. But the errors and mistakes of Corneille are innumerable. The elements of geography he seems not to have understood. He quotes authors whom he never consulted; and gives implicit credit to relations evidently false, or fabulous. Sometimes he repeatedly describes the same place, with a small variation in the orthography, as if these were different places; and at other times, he subsitutes uninteresting details in the room of material facts omitted. Many instructive and entertaining anecdotes, however, are interspersed throughout this work, and all that relates to France is tolerably exact. A miserable compilation from this, and the foregoing work, was made by Alfonzo Lazer de Varea, A. D. 1713, in 2 vol. folio. Corneille, 1708.

To supply the defects of those works, M. Bruzen la Martiniere composed his *Grande Dictionaire* Geographique et Critique, in 10 volumes folio. Many excellent memoirs are contained in this valuable production (See Art. Mer. Monde, Longitude, Latitude, Mesures, &c.). On all occasions the industrious author quotes liberally from other writers, and adds much of his own. But sometimes he indulges himself in copious extracts and details concerning provinces and particular places, a minute acquaintance with which is of little consequence to his readers, and omits, or treats in the most superficial manner, subjects of far greater moment and utility. His account of obscure districts in Asia and Africa, compiled chiefly from the journals of ill-informed or credulous travellers, Martiniere, &c. 1726.

is often tedious and uninteresting. The itinerary distances, longitudes and latitudes of places are generally inaccurate. Many recent discoveries have rendered the knowledge of geography more precise than it was in his time: Notwithstanding, even the severity of criticism will allow that this voluminous work is more correct and useful than any that preceded.

De Lisle, 1720.

The longitudes of places were now more accurately fixed than formerly, by means of the eclipses of Jupiter's satellites, which had been discovered by M. Cassini, a celebrated astronomer in the conclusion of the seventeenth century. The thirst of knowledge, or of wealth, had stimulated societies and individuals attentively to explore distant regions of the earth. But the important discoveries that were made had not yet been applied to the construction of maps. William de Lisle attempted the application, and succeeded. Born A. D. 1675, he was the Son of Claude the author of several superficial treatises of geography. During the early period of his life, he made rapid progress in the study of this science, and constructed several maps, in which many former errors were corrected, and the limits of countries were ascertained with precision. The longitude of the Mediterranean Sea was reduced more than one-fourth of its extent, and its coasts were considerably contracted in latitude. The Asiatic continent was shortened 500 leagues; and other meliorations were made in tracing the directions of rivers, chains of mountains, &c. The proper dimensions of Italy, Sicily, and Greece were likewise settled; and the figure of the Caspian Sea was nearly determined by this learned and indefatigable geographer. One remarkable circumstance must not be omitted; he has traced the source of the river Burrampooter in the same direction nearly as has been done by Mr Rennel in his late elegant map of Bengal. His maps and globe were received with every degree of approbation. It were unnecessary at present to expatiate upon their merits, as they are generally consulted and admired. He

who

who is desirous of further information, may peruse Fontenelle's elegant eloge in the memoirs of the French Academy of Sciences, A. D. 1726.

The loss sustained by the premature death of M. de Lisle could only be compensated by the acquisition of Jo. Baptist Bourguignon D'Anville, who now began to flourish. This profound historian and geographer was born A. D. 1697. His taste for geography soon appeared; and his progress in the study of it was astonishing. Having carefully consulted every proper authority, he acquired a thorough knowledge of the state of the globe during the ancient, middle, and modern ages. He attentively marked the alterations which have happened in the courses of rivers, the forms of coasts, and boundaries of provinces. He ascertained the positions of places, which at present have no existence, or whose names have been entirely changed. He traced the revolutions of states and kingdoms, and the political divisions which thence originated. He detected the errors of many writers on those subjects, illustrated various obscure passages of ancient history, and discovered the truth concerning many facts which had been long involved in mystery and fable. His judicious and elegant dissertations were published in the memoirs of the French Academy of Inscriptions. The ancient maps which he constructed are the most accurate that have ever appeared; a circumstance the more surprising, as he was neither an astronomer, nor geometrician, nor traveller. His conjectures, however, are so ingenious and plausible, his reasonings are so just and well supported by facts, and his accuracy so pointed, that few errors have been found in his works, after the most rigorous examination. Without hesitation, therefore, we may pronounce him to have been the best geographer in Europe. Italy, the Roman empire, and the dominions of Alexander the Great, are delineated in his atlas with uncommon precision. Palestine too, now almost desolated, or inhabited by mean and barbarous tribes, is accurately designed; though during ten centuries past, it has not attracted the notice of any enlightened

D'Anville, 1740.

nation,

nation, and has been visited only by crusaders and pilgrims. These, and other maps no less exact, were accompanied by an admirable abridgement of ancient geography, in 3 vols. 12mo. from which I have seldom presumed to deviate in the following work: for, in all that relates to antiquity D'Anville is a sure and almost infallible guide. The learned world was deprived of this excellent writer A. D. 1782.

It were equally unnecessary and difficult to enumerate the names of those, in every nation, who, in the course of the eighteenth century, have applied to the illustration of geography, or to estimate the respective merits of all their works. Out of the variety now in circulation, every reader will select such as are most agreeable to his taste, or suitable to his purpose: Yet it may be proper to mention the three following:

Busching, 1750. A. F. Busching, professor of philosophy in the university of Gottingen, about 50 years ago, published a circumstantial description of Europe in 6 vols. 4to.; containing an account of the situation and limits, the manners, history, and constitution of the several states and kingdoms, together with a particular survey of their subdivisions and dependencies; their cities and towns, forts, sea-ports, produce, manufactures, and commerce. This useful work has been translated out of the German into the English language, and is illustrated with thirty-six maps indifferently constructed and engraven by Kitchin. It comprises almost every thing relating to the state of Europe in the middle of the eighteenth century, and is composed with great industry and judgment, without taste and elegance. An excellent abridgement of this work, with a supplementary description of Asia, Africa, and America, by M. Berenger, in 10 vols. 8vo. lately appeared in France.

[illegible], [illegible], In the construction of maps one material fault is obvious. Authors are at the pains to crowd into the several divisions as many names as the spaces will admit. By this extreme minuteness, they render the whole map not only inelegant, but in some degree useless, as the eye cannot

cannot easily distinguish places most worthy of observation. This is particularly the case in the grand collection of Robert de Vaugondy, in Kitchin's atlas, &c. To remedy this impropriety, M. Palairet constructed, on a new plan, a set of maps, published in 1754 and 1755. Two and sometimes three maps of the same kingdom or continent are delineated. The first contains merely the outlines, or boundaries, of provinces. In the second, the principal river and the capital of every province are added. The third, still more minute, specifies the most considerable towns and rivers. This atlas, which is confined to Europe, was accompanied with an introduction to modern geography, in two parts, 12mo: the first containing an abridgement of astronomy, with a treatise on the use of the globes; and the second, a concise account of the several kingdoms and states in Europe, their situation, extent, quality, government, commerce, manners of the inhabitants, &c.

Many British geographers of eminence flourished toward the conclu- Gen. Roy.
sion of last century, among whom General Roy held a distinguished rank. A few of his geographical labours, it may be proper to mention. Soon after the suppression of the rebellion A. D. 1745, he was engaged in a geometrical survey of Scotland. The map constructed from this survey, though not altogether accurate, has considerable merit. Delineated on about 80 sheets, it was deposited in the King's library, and has been diligently consulted by Mr Arrowsmith in the formation of his elegant map of Scotland. At the conclusion of the peace, A. D. 1763, government issued an order for a map of the whole island, from actual survey, under the direction of General, then Colonel, Roy; but no step was taken toward the execution of this design till after the peace of 1783. A memoir having been presented to our government by the French ambassador, setting forth the advantages of ascertaining, by actual measurement, the relative position of the observatories of Greenwich and Paris, it was resolved to carry a series of triangles from Greenwich.

wich to Dunkirk, to which the meridian of Paris had been extended. The first thing to be done in this important and arduous undertaking, was to measure a base on Hounslow Heath; which the General performed with scrupulous exactness, and found to be 27404.08 feet, or 5.19 miles nearly. Thence a series of triangles were extended to Dunkirk. From these operations, connected with those of French geometers made at the same time, the distance between the parallels of latitude of Paris and Greenwich observatories, was found to be 963954 feet = 182.567 miles; which corresponds on the earth's surface to an arch of 2° 38′ 26″ in the heavens, the difference of latitude: therefore, the length of a degree of the meridian, in latitude 50° 10′, is 60843 fathoms = 69.14 miles. Again, having measured the perpendicular from the meridian of Greenwich to the tower of Dunkirk, and ascertained to how many fathoms a degree of longitude in that parallel corresponds, the General found the difference of longitude of Greenwich and Paris = 2° 19′ 51″, or, in time, 9m. 19s. 4. After the death of this excellent mathematician and accomplished officer, A. D. 1790, the care of a trigonometrical survey of the island was committed to Captain Mudge of the Royal Artillery, and Mr Dalley, both of whom are well qualified for the undertaking, and have conducted it hitherto with equal ability and success.—Beside the evidence already produced of General Roy's knowledge of practical geometry, he gave sufficient proof of his acquaintance with natural philosophy, in his paper on the measurement of heights by the barometer, and of his being thoroughly versed in the antiquities of his country, in an ingenious posthumous work on the Roman stations in Scotland.

Among the excellent geographical works which have recently appeared, the productions of Rennel, Vincent, and Pinkerton, are distinguished by the variety of valuable information they contain, and are deservedly held in high estimation. But, as they are generally read and admired,

ed, an attempt to display their merits, would be deemed superfluous labour.

Having now taken a view of the most eminent geographers, and pointed out the most considerable improvements attributed to them, I proceed to a survey of the discoveries made by navigators in the course of some foregoing centuries. Discoveries of the Portuguese in 1412, &c.

92. Nicholas of Linn, a friar of Oxford, who was an expert astronomer, A. D. 1360, undertook a voyage into the most northern islands of Europe, and made draughts of those parts which, at his return, he presented to Edward III. This voyage, accomplished 60 years after the invention of the compass, may be considered as one of the first trials made upon the security of the magnetical direction in the northern ocean. But a considerable period elapsed before any other discovery was attempted this way.

In the year 1412, John I. King of Portugal sent out a few ships to explore the western coast of Africa. These vessels doubled Cape Non, and proceeded to Cape Bajador. Porto Santo was discovered, A. D. 1418, by Gonzalez Zarco and Tristan Vaz, two experienced commanders, in the service of Henry Duke of Viseo. A ship of Prince Henry's squadron, A. D. 1433, doubled Cape Bajador, and sailed along the coast of Sahara, from Cape Blanco to Cape Verd. The success of these adventures encouraged the Portuguese to persevere in quest of unknown countries. The Cape Verd islands, and the Azores, were discovered by them about the middle of the fifteenth century. Some time after the death of Henry, the spirit of enterprise languished: but it revived under the auspices of John II. In the year 1487, some Portuguese vessels, under the command of Bartholomew Diaz, descried the Cape of Good Hope; and not long after, viz. in 1498, Vasco de Gama sailed round that cape with a small squadron, and reached Calecut on the coast of Malabar.

Of Columbus, 1492. While the Portuguese were engaged in these attempts, Columbus, a Genoese, from the position assigned by Ptolemy to the eastern parts of Asia, and from recent reports of travellers concerning the immense distance of those regions from Europe, conjectured that a short and direct passage to the East Indies might be found by sailing westward across the Atlantic. Having in vain solicited the Senate of Genoa and the Court of Portugal to favour this arduous enterprise, he repaired to Spain, and communicated his ideas to Ferdinand and Isabella. With great difficulty he obtained the command of three small vessels, and sailed from the port of Palos, on the 3d day of August, A. D. 1492. After a dangerous voyage of 69 days, nearly in the latitude of the Canaries, he discovered Guanahani, which he called San Salvador, one of the Lucaya, or Bahama, Islands. Having visited several islands on which he bestowed names, he sailed southward, approached the coast of Cuba, October 28. and reached Espagnola, December 6. He established a colony at Navidad, and returned to Palos after a voyage of seven months and eleven days.

Preparations were made for a second expedition, and a fleet of 17 vessels was equipped. Fifteen hundred persons of all descriptions embarked with him in this enterprise. He set sail from the bay of Cadiz, September 25. 1493, visited successively Descada, Dominica, Marigalante, Guadalupe, Antigua, San Juan de Puerto Rico, with other islands, and arrived at Navidad in Hispaniola. Thence he weighed anchor with one ship and two small barks, April 24. 1494, and sailed in quest of new discoveries; but made none, except Jamaica, during a voyage of five months.

Upon his return to Europe another expedition was planned; and, on May 30. 1498, he obtained the command of six small ships, indifferently provided for a long navigation. From the bay of S. Lucar de Barrameda he took his departure, resolved to prosecute his discoveries with

with fresh ardour. On the coast of Guiana, August 1., he perceived a considerable island, which he called Trinidad. Thence he sailed westward along the coast of Paria and Cumana, and landed in several places, to ascertain the existence of a new continent. He was recalled by the King, and arrived at Cadiz, November 20. 1500.

With four ships and 140 men on board, he undertook a fourth voyage of discovery, and sailed from Cadiz, May 9. 1501. He reached Martinico, June 15.; soon after arrived off St Domingo; proceeded to the continent, navigated along the coast from Cape Gracias a Dios to Portobello, was shipwrecked on the coast of Jamaica, and arrived at St Lucar, December 1504. He died at Valladolid, May 20. 1506, in the 64th year of his age.

Several German writers have attributed the discovery of America to Martin Behaim, who was born at Nuremberg after the year 1430, and appointed commander in a voyage of discovery, A. D. 1483. Upon his return, this navigator, at the request of the Magistrates of Nuremberg, A. D. 1492, traced his discoveries on a globe of eight feet nine inches diameter. But so extremely rude and inaccurate is this delineation, that scarcely one remote country, or island, is laid down in its proper position, or just proportion. Neither from his map, nor from the explanation he annexed, does it appear that he had seen any part of America in the course of his voyage. About 50 degrees east of Japan, he has marked the outlines of a large, new-discovered island, which he calls St Brandon, whose south extremity approaches the equator, and whose centre is in 5° N. latitude. But succeeding navigators have found that no such island exists in that part of the Pacific Ocean.

New enterprises were daily planned, and new discoveries were made. But the islands and the extensive region beyond the Atlantic Ocean, were still supposed to be a continuation of India, agreeably to the erroneous theory of Columbus. In consequence of this mistake, the name of the

Indies has been assigned to those countries. Amerigo Vespucci, a Florentine merchant, accompanied Ojeda A. D. 1499, in a voyage to the West Indies. Upon his return he attributed to himself the discovery of Terra Firma; and he so far succeeded as to acquire the glory of having his name given to the continent, which had been discovered by a former navigator. To exhibit a chronological detail of European discoveries in those distant parts of the globe, would be uninteresting to most readers. A few of the most considerable shall be mentioned under the subsequent article, in which I propose to enumerate various attempts that have been made to circumnavigate the globe, and to find out a shorter passage to the East Indies than round the Cape of Good Hope.

Circumnavigation of the globe.

93. Some navigators, of bold and enterprising genius, not limiting their adventures to the discovery of particular countries, undertook to sail round the globe, in order to ascertain its extent, and the relative situation of its parts.

Columbus.

It hath been already observed, that Columbus was the first who believed such an attempt to be practicable. From the earth's sphericity, he inferred that the continent in one hemisphere is balanced by a continent on the other: and, as the Portuguese had discovered an extensive tract of country by sailing eastward, he concluded that, by crossing the Atlantic, the opposite coast of that country might be found. These, and similar reasons having fully satisfied his own mind with regard to the general opinion he had adopted, he resolved to convince others of the truth of his system by making the experiment. In four voyages he prosecuted his general design of discovering a passage to the East Indies by a western course (See America). But this design was overlooked, or neglected, by several succeeding navigators, who, in their naval enterprises, followed no other guide than their own avarice, or the vague reports of Indians.

The

The first adventurer who resumed the scheme of circumnavigating the globe, was Ferdinand Magellan, or Magalhanes, who was employed for this purpose by the Court of Spain. With five small ships and 236 men, he sailed from Seville on the 10th day of August A. D. 1519, and passed the following winter in Port St Julian on the coast of Patagonia. Departing thence, August 24th, A. D. 1520, he discovered, November 6th, and entered the strait now called by his name, near the southern extremity of America. After a dangerous navigation through this strait, he found himself, November 28th, in the Southern Ocean, which he styled Pacific, from its tranquillity. In this ocean he sailed N. W. 3 months and 20 days, and during all this time he saw no land except two uninhabited islands. On the 6th of March 1521, he fell in with a cluster of islands in 12°, or 15° 48′ N. latitude, and 146° longitude from his first setting out. He landed, March 10th, upon the Island of Zamal, 30 leagues from the Ladrones; and next day went ashore at Humunu, an inhabited island, where he found abundance of water and refreshments. Departing thence, March 25th, he directed his course S. W. and three days after, arrived at the island of Buthuan, where was abundance of gold. In the island of Messana, 9° 40′ N. lat. and 162° W. longitude, he found dogs, cats, hogs, goats, hens, rice, and fruit. He next visited Zebu and Mathan, two small islands, in one of which he was killed by the natives who had armed in their own defence. The remainder of the crews departed; and in their progress sailed by the islands of Bohol, Chipet, Coghaian, Puloan, Borneo, Chimbulon in 8° 7′ N. lat. Sarangani, &c. They perceived the Moluccas on the 6th of November; and directing their course S. W. through a group of islands, they repaired their vessels at Mallua, in 8° S. latitude, and 169° 40′ W. longitude, according to their reckoning. In this island, whose inhabitants they supposed to be Cannibals, there was abundance of pepper. Next passing a long chain of islands and the south coast of Sumatra, they

Magellan, 1519.

they did not touch at any harbour, till they arrived at St Jago, one of the Cape de Verd islands. On September 7th, A. D. 1522, they reached the harbour of St Lucar below Seville, after a voyage of three years nearly. The sphericity and extent of the earth's circumference was now, for the first time, physically demonstrated.

Willoughby, 1553.

Portugal and Spain were not the only nations in Europe which, with ardour, engaged in naval adventures. Throughout England, France, and the low countries, the spirit of discovery was likewise diffused. Sir Hugh Willoughby, immediately before the death of Edward VI. sailed from England with three ships, in quest of a north passage to Russia and China. In the course of this voyage, he approached an island, environed by rocks, which he called Spitzberg. Having penetrated to seventy-two degrees of northern latitude, and unable to proceed farther on account of immense shoals of ice, he retreated to Port Arzena in Lapland, where he and the greater part of his squadron perished. On his table he left an account of his course and his sufferings.

Frobisher, 1576.

Martin Frobisher, who received a commission from Elizabeth Queen of England, was not more successful in an attempt to discover a north-west passage to China. In his first voyage he passed through a strait, now called by his name, near the southern extremity of Greenland. In the year following, he made some further discoveries in those parts; and in the year 1578, he landed on West Frizeland, of which he took possession in the name of his sovereign, calling it West Britain.

Drake, 1577.

Sir Francis Drake, an enterprising, intrepid, and successful navigator and commander, having acquired considerable wealth by depredations made in the isthmus of Panama, was stimulated by ambition and avarice to employ his fortune in an adventure through the Pacific Ocean, at that time little known to European nations. Having obtained the consent of his sovereign, he set sail from Plymouth, December 13th A. D. 1577, with four ships and a pinnace. Having passed through the Straits of

Magellan

Magellan in August following, he sailed along the western coast of America, took several Spanish prizes, and proceeded northward to C. Blanco on the coast of California, in 32° N. latitude. Directing his course westward, he perceived several inhabited islands, and reached the Moluccas in November 14th A. D. 1579. Afterwards he anchored at a small island south of Celebes; and in February 18th 1580, visited the island of Baratene, which abounded in gold, silver, copper, pepper, cocoas, fruits, and all the comforts of life. Thence he returned by the Cape of Good Hope to England, where he arrived on the 26th of September. Some discoveries, which the ignorance or partiality of his encomiasts have attributed to him, were made by other navigators.

Nothwithstanding the melancholy fate of Willoughby, Stephen Burroughs, afterwards comptroller of the navy, sailed from England A. D. 1556, in quest of a north-east passage to the Indies. Doubling North Cape, he proceeded eastward, and discovered the Strait of Waygatz, between Nova Zembla and the country of the Samoiedes; whence he returned, having, as he imagined, found the passage so ardently desired. His report encouraged Queen Elizabeth to fit out two vessels in order to complete the discovery. Jackman and Pett, the commanders of those vessels, entered the Strait A. D. 1580, but were driven back by vast shoals of ice, and one of the ships with its crew perished in the expedition. Several Dutch navigators made the same attempt with no better success: and all, at length, were convinced that no north-east passage existed, or at least was practicable.

Burroughs, 1556.

Jackman, 1580.

John Davis was employed by a company of merchants to search for a north-west passage. Having received the command of two small vessels, he sailed from Dartmouth, June 7th A. D. 1585. On July 20th he discovered a dreary tract which he called the land of Desolation. A few days after, in 64° 15′ N. latitude, he entered an open sea, where he found

Davis, 1586.

found many convenient ports, and had some intercourse with the natives. Proceeding N. W. he arrived, August 1st, at a fair road free from ice, in 66° 40′ N. latitude, where he anchored at the foot of Mount Raleigh.—The coast was every where mountainous and barren, affording neither wood nor grass. Directing his course S. S. W. he doubled the most southerly point of that land, which he called Cape of GOD's Mercy, and found a strait 60—90 miles broad, now distinguished by his name, about 48° 10′ W. longitude from Greenwich. In this strait he observed several islands. On the thirtieth day of September he arrived at Dartmouth. May 7th A. D. 1586, he sailed from Dartmouth, in a ship of 120 tons, accompanied by his two former vessels, and a pinnace. June 15th, he discovered land and shoals of ice in 60° N. latitude. On the 29th of that month, in 64° N. latitude, and 59° 10′ W. longitude from Greenwich, he found land yielding coarse grass and inhabited, and several islands covered with wood. Having explored a dreary and broken coast from 67° to 57° N. latitude, he returned to England about the beginning of October.

This undaunted and enterprising mariner undertook a third voyage, and sailed as far northward as 72° 12′ N. latitude, making several attempts in those parts to find a north-west passage; but, deserted by his men, he was constrained to return without having made any discovery of importance.

Cavendish, 1586. On the tenth day of July A. D. 1586, Thomas Cavendish having received the command of three vessels manned with 126 sailors, departed from Plymouth, navigated the dangerous Strait of Magellan in January following; sailed along the western coast of America to California; returned by the Philippine Islands and the Cape of Good Hope, and arrived in England on the ninth day of September A. D. 1588, having made no discovery.

The

The Spainards, who had established colonies in the western parts of South America, fitted out several small squadrons to explore the Pacific Ocean. Neyra, 1595.

The adventure of Mendana de Neyra is best known. With four ships he sailed from Callao, April 9th 1595, and discovered the Marquesas, St Bernardo, and Santa Cruz. The shattered remains of his squadron retired to Manilla.

Oliver Van Noort, a native of Utrecht, was employed by some eminent Dutch merchants, in a voyage of discovery. Having received the command of four vessels, he sailed from Holland, September 13th 1598. On January 5th 1599, he reached C. St Thomas on the coast of Brasil; and on the 9th arrived at Rio Janeiro. Departing from that coast, he was long tossed about in the Atlantic by contrary winds; and, September 20th, anchored in Port Desire on the coast of Patagonia. He passed through the Strait of Magellan; on February 28th 1600, entered the Southern Ocean; and, March 12th, approached the Island of Mocha on the coast of Chili, in 39° S. latitude. Proceeding as high as the latitude of Lima, and finding little plunder, he sailed to the Ladrones, which he reached September 16th. Guana, one of them, 20 miles in extent, yields cocoas, sugar-canes, bananas, &c. Near the Philippine Islands, September 20th, he met with ice in 3° N. latitude. Having taken some vessels laden with provisions, in 15° N. latitude, he continued his course to Borneo, and December 26th anchored in a deep bay. The capital, according to his report, consisted of 3000 houses situate in a low swamp. January 28th 1601, he touched at Jortan, a town of 1000 wooden-houses on the Island of Java. On the 5th of February, passing through the strait between Balamboa and Baty, and leaving Java to the north-east, he sailed to the Cape of Good Hope, and arrived at St Helen May 26th. After a perilous and fruitless voyage of three years nearly, he returned to Rotterdam, August 26th 1601. Van Noort, 1598.

Quiros, 1605. Pedro Fernandez de Quiros, a Spanish adventurer, having received a commission from the Viceroy of Peru, set out from Callao, December 21st A. D. 1605, in search of a southern continent. He directed his course W. S. W. to Pitcairn's Island; sailed thence W. N. W. and returned to New Spain, having discovered several small islands in the Pacific Ocean. In his memorial to the court of Spain, he pretended to have found out the southern continent in 15° S. latitude. Its produce and inhabitants he affected to describe, and conjectured that its extent might be equal to that of Europe and of Asia Minor.

The idea of a passage to the Indies by the North Pole had been suggested in England as early as the year 1527 by Robert Thorn, merchant in Bristol. But, though the possibility and importance of the attempt were stated in a letter to Henry VIII. yet it does not appear that his arguments produced the desired effect. The unsuccessful effort of Willoughby has been already mentioned.

Hudson, 1607, &c. Henry Hudson, notwithstanding, received a commission from James I. of England, A. D. 1607, to proceed to the circumpolar seas, and to discover a passage by the north pole to China and Japan. He sailed from Gravesend, on the first day of May, in a small vessel, with ten men and a boy. Having found land in 73° N. latitude, and traced a small part of the coast of Spitzbergen, he sailed northward to 80° 23′ N. latitude, where he was opposed by immense shoals of ice. On his return to England, he declared that, in his opinion, there was no passage in this direction to India. In the year 1610, he was employed in the discovery of a north west passage; but this voyage was not more successful than the preceding had been. He sailed directly to Davis' Straits, and then, changing his course to the westward, he entered a bay that still bears his name, in the American continent. Here he traversed, during three months, in search of a passage to the Pacific Ocean, and at length perished in the attempt.

Jonas

Jonas Poole, March A. D. 1609, was sent to explore the Frozen Ocean. Having, in vain, endeavoured to penetrate beyond 79° 50′ N. latitude, he returned to London. His enterprise in the following year likewise proved abortive. Poole, 1609.

In the year 1615, Captain William Baffin undertook to explore that bay into which Davis' Strait opened a passage, and he so far succeeded as to determine its extent. In the year following, he discovered an outlet known by the name of Sir Thomas Smith's Sound. Baffin's Bay lies between 70° and 78° N. latitude, and between 43° and 90° W. longitude from Greenwich. Baffin, 1615.

George Spilberg, a native of Holland, having obtained an order from the Dutch East India Company, and received the command of six vessels, sailed from the Texel August 8th, A. D. 1614. Passing through the Strait of Magellan, he proceeded northward along the American coast, and defeated a Spanish squadron, November 26. 1615; being in 20° 26′ N. latitude, he steered directly for the Ladrones, where he anchored January 4th, and procured some refreshments. Having cruised sometime in those seas, and taken several prizes, he returned to Holland, by the Manillas, Luconia, Jacatra, Cape of Good Hope, &c. and arrived in the Texel, July 1st, A. D. 1617, after a voyage of about two years and eleven months. Spilberg, 1614.

From the sphericity of the earth, Le Maire, a Dutch merchant, conjectured that the vast regions in high northern latitudes must be balanced by a southern continent, which he farther supposed would be found at no great distance from the Strait of Magellan. This idea he communicated to William Cornelius Schouten of Horn, who readily adopted it, and resolved, with Le Maire, jun. to go in quest of that continent. These navigators weighed anchor in the Texel, June 14th, A. D. 1615. In January following, they passed through a strait, to which Le Maire gave his name, lying between the southern coast of Terra del Le Maire, 1615, and Schouten.

Fuego and Staten island, doubled Cape Horn, and entered the great South Sea. Le Maire died in his voyage homeward. March 5th, Schouten approached the two small islands of Fernando, in 33° 48′ S. latitude, and obtained a supply of fish and water. In 15° 12′ S. latitude, he found a low island, which he called Dog's Isle, having observed in it several animals of that species, but no human inhabitant. He next saw a long inhabited island, in 15° S. latitude, and about 100 leagues from Dog's Isle. During the month of May, he discovered the following islands, viz. Cocoa Island, which appeared one entire mountain, in 16° 10′ S. latitude.—Traitor Island, lying from east to west, low, and well inhabited.—Hope Island inhabited, full of bleak cliffs, and well stocked with cocoa trees and herbs.—Horn Island abounding in hogs, in 14° 16′ S. latitude. Sailing along the northern coast of New Guinea, he discovered many small islands to which he gave names expressive of their general appearance, or their productions. From the N. W. extremity of Guinea, he steered for Moro, Ternate, Bantam, &c. and reached Jacatra, now Batavia, October 18th 1616, having lost three men only during the whole voyage, and having discovered more islands than all who went before him. He returned to Holland July 5th 1617.

L'Hermite, 1623.

In the year 1623, the Dutch fitted out eleven ships, carrying 1627 men, and 294 pieces of brass and iron cannon, to act against the Spanish trade and settlements on the western coast of America. This squadron, under the command of James L'Hermite, sailed from Goeree, April 29th. Having navigated the Strait of Le Maire, February 1624, L'Hermite found there good anchorage, with plenty of wood and water, and he supposed Terra del Fuego to be divided by several channels. He perished in the siege of Lima, June 2d. His fleet, greatly reduced, finding the Spaniards every where prepared for their reception, retired from that coast, January 15. 1625, proceeded to the East Indies, arrived at the Ladrones, and anchored before Guan, where they received

a supply of provisions. They reached Batavia, August 29th, where the ships, of which the fleet was composed, were separated, and employed in such a manner as seemed then most for the service of the States General and the Company. No expedition could have been worse conducted and more unfortunate, owing to the improper choice of officers.

Few discoveries of importance were made in the Pacific Ocean, until Abel Jansen Tasman sailed from Batavia, August 14th, A. D. 1642. On the 24th of November, he reached the south east point of New Holland, which he called Van Diemen's Land; and, September 13. 1643, approached New Zealand, in 42° 10′ S. latitude, and coasted along the shore till the 18th of that month, when he anchored in Murderers Bay. Thence he sailed to North Cape, 34° 35′ S. latitude, beyond which is an island which he called Three Kings. Stretching E. N. E. he discovered the islands of Pylstaart, Amsterdam, Rotterdam, and Heemskirk Shallows; and returned along the eastern coast of New Britain, and north coast of New Guinea, where he observed the Volcanic Island mentioned by Schouten. From the N. W. extremity of Guinea, he proceeded to Ceram, and arrived at Batavia, June 15. 1644; having discovered Guinea and New Holland to be insular, which was the great object of the voyage; only he supposed they were united and made one immense continent. Tasman, 1642.

Cowley, an English navigator, sailed from Virginia, Aug. 23. A. D. 1683, on a piratical expedition, according to the practice of those times. He steered south of Staten Island, and was driven by a storm to 63° 30′ S. latitude. Directing his course northward, he surveyed the coasts of the Spanish settlements in South America; approached the Gallapago islands, where he found plenty of tortoises, wood, water, and provisions. About the middle of August A. D. 1684, he left his ship, and went as master of another English vessel commanded by Captain Eaton. After a short cruise on the American coast, he steered for the East Indies, and discovered a cluster of islands Cowley, 1683.

islands north of Luconia, in 20° 30′ N. latitude, one of which he called Nutmeg Island. Thence he sailed to Canton in China. Nothing material occurred during the remainder of the voyage, except that Cowley and other seamen deserted the ship, near the Island of Timor, went to Batavia, and returned in a Dutch vessel to Europe.

In those days, distant voyages were, for the most part, undertaken by adventurers, or Buccaneers, who engaged in enterprises of this nature, not with the view of making discoveries, but in order to acquire wealth by plunder. Their aim was to intercept some of the Spanish trading ships, or to seize some of their settlements. One of those adventurers was

Dampier, 1683.

Dampier, who embarked at Virginia, Aug. 23d A. D. 1683, passed through the strait of Le Maire in February following, and cruized sometime on the American coast, where he took several prizes. From C. Corientes he sailed to the Ladrones; and thence to the Philippine Islands. Having repaired his vessel in the river Mindanao, he weighed anchor, January 1687, and visited the following places, viz. the Islands of Mindora, Luconia, Pulo-Condore, and St John on the coast of Canton. Cruizing with little success among the islands between China and Luconia, he steered southward to the coast of New Holland. He arrived at Sumatra, April 8, 1688. Having remained sometime in that quarter, he returned by the Cape of Good Hope, and anchored in the Downs, September 16, A. D. 1691.

Under the patronage of the Earl of Pembroke, this enterprising navigator undertook a voyage of discovery, A. D. 1699, in a ship carrying 12 guns, 50 men and boys, with 20 months provisions. Having departed from the Downs, January 14, he sailed by the Cape of Good Hope to New Holland, the west coast of which he approached in 26° S. latitude. He observed the soil of the inland country to be of a reddish colour, covered with tufted grass, heath, low trees, and shrubs. Coasting northward along the shore, he anchored in 18° 21′ S. latitude. Beyond

a ridge of sandhills were savannas and woodland thinly inhabited. The coast was lined with shoals and rocky islands. Directing his course northward by Timor, he approached the western extremity of New Guinea, January I, A. D. I700—sailed along the north coast of that country, and the eastern coast of New Ireland—doubled Cape St George, and anchored in Port Montague on the south coast of New Britain. Navigating the strait between this island and New Guinea, he found several small islands in his passage, viz. Sir George Rook's Island, Crown Island, Sir Robert Rich's Island, &c. Towards the end of June he arrived at Batavia, where he remained three months. He reached the Cape of Good Hope December 30th. Having lost his ship, February I70I, at Ascension Island, he returned to England.

Funnel and Dampier, April 30th, A. D. I703, sailed from the Downs on a voyage to the South Sea, in a ship carrying 26 guns and I20 men, attended by a small victualling vessel. Doubling Cape Horn, they cruized sometime on the coast of Peru, and took several prizes. From the gulf of Amapalla, Funnel sailed for the East Indies, Feb. 3d I705, leaving Dampier to cruize on the American coast. Captain Stradling in another small vessel remained on that coast. When he went to the island of Juan Fernandez, Alexander Selkirk, one of his crew, chose to remain there. Funnel passed within sight of Guam, discovered three low wooded islands, which he called Disappointment Isles, in 0° 45′ N. lat. navigated a strait not formerly known between Gilolo and New Guinea, and arrived at Amboyna, where his ship was seized, and sold by the Dutch. Dampier, 1703.

Ships of adventure, during this period, were supplied with provisions and warlike stores, and received their commission from the Lord High Admiral, with one remarkable clause in their instructions, viz. " No pur- " chase, no pay."

A

Rogers, 1708.

A society of gentlemen in Bristol fitted out a small squadron, consisting of two ships of war, eight other ships, and two sloops, under the command of Captain Woods Rogers. Having made up his complement of men at Cork, in Ireland, he weighed anchor Aug. 28th, A. D. 1708, reached the coast of Brazil November 18th, and anchored before the lofty island of Grande. Steering southward he doubled Cape Horn, and arrived at Juan Fernandez, February 1st, where he found Alexander Selkirk, a native of Scotland, who had remained four years and four months on that island. Having procured a supply of water and refreshments, he weighed anchor February 13th—crossed the tropic of Capricorn, and touched on the islands of Lobos, March 17th. He plundered the town of Guayaquil on the coast of Peru—cruized some time in those parts, and cast anchor at Gorgona, June 13th, in 3° north latitude. Directing his course to the Gallipagos, where he found abundance of turtle and fish, he proceeded to the islands "Tres Marias," in 21° 35′ north latitude, near the coast of Mexico; visited the Bay of Puerto Seguro on the Californian coast; took one Manilla ship, and made an unsuccessful attempt on another; on March 11th 1710, reached Guam, one of the Ladrones, where he obtained a supply of provisions; and after an indirect course, in which he encountered several storms, anchored near the town of Bouton. Sailing thence through the straits of Zalayer, and by the south coast of Celebes—he landed at Batavia, June 22d. He took his departure, October 14th; doubled the Cape of Good Hope; reached the Texel, July 23d; and on October 2d arrived in the Downs, after a circumnavigation of three years and two months. No discovery of importance was made in the course of this adventure.

Clipperton, 1719.

Some English merchants, at the commencement of war between Great Britain and Spain, having fitted out two ships, one of 36 guns and 180 men, and the other of 24 guns and 106 men, gave the command of the Success to Captain Clipperton, and appointed Captain Shelvocke to the command

command of the Speedwell. Those ships sailed from Plymouth, February 15, A. D. 1719, and soon after separated. Clipperton passed through the straits of Magellan in June, cruized sometime on the American coast, and took several prizes. Being in 16° 50′ north latitude, he sailed for the East Indies, and anchored at Guam, May 13th, A. D. 1720, where his ship was greatly disabled in an engagement with the Spanish Garrison. Having with difficulty disentangled himself, he shaped his course westward, and reached the port of Amoy in China, July 6th. There a mutiny of the crew deprived him of the command of the ship, which was afterwards sold at Macao. He returned to Ireland, June 1722, having made no discovery, nor fortune.

George Shelvocke passed through the strait of Le Maire, in the month of September, took some small prizes on the coast of Chili, and sailed to Juan Ferdinandez, where his ship was wrecked, May 25th 1720. With great difficulty he constructed a little bark of 20 tons out of the ruins of the wreck, and proceeded again to cruize on the American coast. Having seized a valuable prize, he departed from the south Cape of California, Aug. 18th 1721, reached Guam in the beginning of October, and anchored at Macao, Nov. 12. Thence he returned to Europe by the Cape of Good Hope, and arrived in London, August 1st 1723, after an ill-conducted and unsuccessful expedition of three years, seven months, and some days. Shelvocke, 1720.

Commodore Roggewin was appointed by the Dutch East India Company to the command of a small squadron, consisting of one ship of 36 guns and 111 men, another of 29 guns and 100 men, and a third of 14 guns and 60 men, to be employed in a voyage of discovery. He sailed from the Texel, August 21st A. D. 1721, to Port St Sebastien in Rio Janeiro; and thence S. S. W. to 52° south latitude, where he discovered and circumnavigated an island, which he called Belgia Australis, 200 leagues in circuit. He found the interior part of this desert island chequered with wooded mountains and Roggewin, 1721.

vallies, and the coast indented with creeks and inlets. In January 1722, doubling Cape Horn, he anchored at Juan Fernandez. Thence he proceeded in quest of Davis'-land, in 27° 20′ south latitude, but did not find it. Sailing westward, he discovered a small, fertile, well-inhabited island, which he called Pasch, or Easter. Thence steering a westerly course, he observed no land in the space of 800 leagues. At length, in 15° 30′ south latitude, he found a low island, in the middle of which was a pond, or lake. Some of the crew supposed this island to be Schouten's Dogs' Isle; but he was of a different opinion, and gave it the name of Charles Court, or Carlshoff. Soon after, he reached other small islands, between 15° and 16° south latitude, and 12 leagues west of the preceding. One of these he called Mischievous Island; the two next the Brothers; and the fourth the Sister; all covered with cocoa trees and fine verdure. They are low, and environed with shoals. The inhabitants, having their bodies painted, were armed with pikes and lances. Eight leagues westward, he saw another wooded island, about four leagues in extent, which he named Aurora; and, at no great distance, a low island 12 leagues in circuit, covered with trees and grass, which he called Vesper. Twenty-five leagues west of Mischievous Island, he found a group of six small inhabited islands, environed by reefs of rocks, in 15° south latitude, and distinguished them by the appellation of the Labyrinth. Next he approached Recreation Island, which he observed to be tolerably high, inhabited, and fertile, with a rocky shore, in 16° south latitude. Here, through the anxiety of his officers to return, he was constrained to give up all thought of further discoveries: and so intent were they on getting to the East Indies, that they would not stop at several inviting islands in their way to refresh their crew, though most of them were unfit for service. In his course to New Britain, he saw several islands which he called Bowman's, in 12° south latitude, beautifully diversified with hills and vallies, abounding in cocoa-

trees,

trees, Indian figs, &c. and inhabited by a mild and peaceable people, whose bodies were not painted. Approaching New Britain, he traversed an archipelago, which he named A Thousand Islands. He continued his course by the north coast of New Guinea, Bouro, Bouton, &c. to Batavia; and arrived in the Texel, July 11, A. D. 1723. The account which this navigator has published of his voyage and discoveries is very interesting; and that part of it which relates to the Dutch settlements is circumstantial.

Bouvit, 1738.

In the year 1738, M. Bouvit was sent by the French East India Company to explore the southern parts of the Atlantic ocean. Having sailed from Port L'Orient on the 19th day of July, he touched at the island of St Catherine on the coast of South America, shaped his course south-east, and imagined he perceived land south from the Cape of Good Hope, in 54° south latitude; but he must have been mistaken, and perhaps he was deceived by a field of ice. Thence he proceeded northward to Isle de France.

Anson, 1740.

Commodore Anson, having received the command of six ships of war, carrying 236 guns and 1510 men, sailed from Portsmouth, September 18, A. D. 1740, on an expedition to the South Sea. He anchored in a bay of St Catherine's Island, near the Portuguese fort, December 20th. Having taken in wood, water, and provisions, he proceeded to Port St Julian, where he refitted one of his ships that had been damaged in a storm. Again he weighed anchor February 27th; and on the 4th of March came in sight of Cape Virgin. In that high latitude fair weather was of short duration, and the tempests were tremendous. After a rough passage through the Strait of Le Maire, and having undergone many hardships, he reached Juan Fernandez, June 10th, with hands scarcely sufficient to man his ship. The other ships had been dispersed by the fury of the storm. The Tryal sloop soon after appeared, having lost 34 of 100 men. The Gloucester was descried, June 26th; its crew,

which originally consisted of 300 men, was reduced to 80, and a month elapsed before it could be brought into the bay. On the 16th of August the approach of the victualling sloop was announced. The ships were repaired, the sick restored, and cruizing orders issued. The Commodore took his station off Valparaiso, and afterwards proceeded to the coast of Paita. He took several prizes, and plundered and burnt the town, November IIth. The squadron next sailed northward to cruize for the Manilla galleon. It was then the middle of November. Towards the beginning of December they anchored at Quibo Island, for wood and water. Having cruized some time off Acapulco, the Commodore shaped his course towards the Asiatic continent; on August 22d 1742, reached the islands of Anatacan and Serigan, and steered for Tinian, where he found plenty of refreshment for his crew, which was now reduced to 71 men. On the 21st of October he left Tinian, and on November 13th arrived at Macao. Having completely refitted his ships, he weighed anchor, April 19th 1743, and on May 20th discovered Cape Espiritu Santo, near which he was to cruize for a Manilla ship. Towards the beginning of July the galleon appeared, which he took. The property on board amounted to a million and a half of dollars. With this valuable prize he returned to Macao; sailed thence December 15th; anchored at the Cape of Good Hope, March IIth; and arrived at Spithead, June 15th 1744. The entertaining history of this voyage is familiar to every reader.

Behring, 1725. M. Behring, by command of Peter the Great, set out, February 5th A. D. 1725, on a journey of discovery from Petersburgh to Siberia. He travelled through Tobolsk, Jeniseiski, Ilimski, Jakutsky, to Ochotski, where he arrived in December. August 21st 1726, he crossed the gulph of Ochotsk to the mouth of the river Bolzeresckoi; and thence traversed the peninsule to the mouth of the river Kamschatka. Having constructed a small vessel, he weighed anchor, July 14th 1727, to explore the north-

east

east coast of Siberia. August 10, he discovered the Island of St Lawrence, where he found some houses, but no inhabitants. August 15th, in 67° 18′ N. latitude, perceiving no land to the north and east, he returned to the river Kamschatka, having sailed 30 degrees eastward, according to his computation. In June 1729, he sailed 48 leagues eastward of Kamschatka; and, finding no land, returned by the south point of the peninsule to Ochotsk, and thence to Petersburgh, where he arrived March 1st 1730.

In the month of June 1741, the Russians fitted out two vessels at Ochotsk to survey the adjacent coast of America. Behring and Tschirckow, the commanders of those vessels, sailed eastward; and, in 208° E. longitude from Ferro, they perceived land, which they erroneously supposed to be the American continent. In their progress they visited several intermediate islands. Near the north-east coast of Asia, Behring perished. This voyage and another undertaken A. D. 1768, have been of essential service to succeeding navigators engaged in the same enterprise. Behring, 1741.

Commodore Byron, in the Dolphin ship of war, attended by the Tamar frigate, sailed from the Downs, July 3d 1764, on a voyage of discovery. Shaping his course by Madeira and Palma, he arrived in the road of Rio de Janeiro. He sailed thence October 16th; and on November 21st anchored in the harbour of Port Desire. Next, he proceeded to Pepy's Island, which some charts have placed in 47° S. latitude; but he could not find it. He entered the straits of Magellan, December 21st, where he procured wood and water; and, on the 27th, cast anchor in Port Famine. Thence he sailed to Falkland's Islands; descried land on January 12th; and soon after found a capacious harbour, which he called Port Egmont. Conceiving the circumjacent land to be the Pepy's Island of Cowley, he gave the appellation of Falkland's Islands to the whole group, whose circumference he computed to be about 700 miles. After Commodore Byron, 1764.

a tedious and difficult navigation through the straits of Magellan, he entered the South Sea in the beginning of April. Stretching along the west coast of South America, he attempted in vain to land on the island of Masafuero. Toward the end of May he approached a small inhabited island, which he called Disappointment Isle, because he found no bay or harbour. On June 9th, he discovered a low inhabited island, shaded with trees, in 14° 29′ S. latitude, and 148° 50′ W. longitude, and soon after perceived another; both of which he named King George's Islands. Next day, he observed a verdant, fertile, and populous island, which he called Prince of Wales's Island; and, on the 24th, discovered "Duke of York's Island," with a lake in its centre, apparently uninhabited, and surrounded by breakers. Sailing northward, he approached a low flat island, July 2d, abounding in cocoa and other trees. This he named Byron's Island, in 1° 18′ S. latitude, and 179° 56′ E. longitude. On July 31st, he anchored at Tinian, where he found none of those beautiful lawns described in Anson's voyage, nor springs of fresh water. The former were covered with reeds and jungle, and the latter were brackish. Sailing thence on September 30th, he arrived, November 5th, at Timoan, inhabited by Malays. Having touched on Pulo Toupoa, he proceeded in his course homeward; reached Batavia on the 27th; the Cape of Good Hope, December 13th; and anchored in the Downs May 9th 1766.

In the month of August A. D. 1766, two vessels were fitted out, at the expence of the British Government, in order to make discoveries in the southern hemisphere. The Dolphin was commanded by Captain Wallis, and the Swallow by Captain Carteret. Those vessels proceeded together through the Straits of Magellan, but afterward separated, and returned by different routes to England.

Wallis, 1766. Captain Wallis steered a more westerly course than any navigator had attempted in so high a latitude. On June 6th 1767, he discovered Whitsun

Whitsun Island, about four miles long and three broad, low and encompassed with breakers, in 19° 26′ S. latitude; and in the space of a few days after, he discovered Queen Charlotte's Islands, yielding abundance of cocoa nuts, scurvy grass, and other vegetables—Egmont Island in 19° 20′ S. latitude, and 138° 30′ W. longitude—Gloucester Island environed by shoals—Cumberland Island—Prince William Henry's Island—and Osnaburgh Island. On the 25th of the same month, he anchored at Port Royal Harbour, on the coast of Otaheite, which he called George III's Island. He passed by the Duke of York's Island on July 27th; and next day discovered land, which he called Sir Charles Saunder's Island, whose coast was lined with cocoa trees. On the 30th, he saw an island, and some dangerous shoals; to the former of which he gave the name of Lord Howe, and the latter he called Scilly Islands. Steering westward, he came in sight of Keppel's and Boscawen's Isles. He discovered Wallis's Island, August 16th; descried land, September 3d; and on the 19th anchored at Tinian. Taking his departure thence, October 15th, he discovered, on the 3d of the following month, Sandy Island,—Small Key,—and Long Island; and next day New Island, which lies in 10° S. latitude, and 247° W. longitude. Crossing the equinoctial line, he saw, on October 17th, Pulo Tote and Pulo Weste; and soon after seven small islands. Having touched on Pulo Taya, he arrived in the road of Batavia, November 30th; and in a few days removed to Prince's Island, where he procured all necessaries on reasonable terms. On the 4th of February 1769, he anchored in Table Bay at the Cape of Good Hope; sailed thence March 3d; reached St Helena in 14 days; crossed the equinoctial line on the 28th; and, on May 20th, arrived in the Downs.

Captain Carteret, after he had parted from Wallis, April 11th, remained sometime at Masafuero, an island of a triangular form, and 22 miles in circuit, with several good harbours. On the 25th, he quitted that station; Carteret, 1766.

station; and on July 2d, discovered Pitcairn's Island, about five miles in circuit, in 25° 3′ S. latitude. On the 4th, he discovered Osnaburgh Island; and, on the 12th, two islands, which he called Duke Gloucester's Islands, uninhabited, and destitute of wood, water, and vegetables. In his course thence, during three weeks he was perplexed with alternate storms and calms. About the 18th of August, he touched on Egmont Island, where his crew had several skirmishes with the natives. In that month, he also discovered Portland Island, and Trevanian Island, the latter of which appeared to be well inhabited, and to abound in plantains, bananas, cocoas, hogs, and poultry. These islands he distinguished by the general appellation of Queen Charlotte's Island; and to others of less note he assigned the names of several eminent characters. Simpson's and Carteret's Islands lay southward of the foregoing. On the 24th, he discovered nine islands, of which eight were of little note; Sir Charles Hardy's Island; Winchelsea Island, &c.; and on the 26th, he came in sight of land, which he supposed to be St John's Island discovered by Schouten. In a bay, by Dampiere called St George's, he anchored on the coast of New Britain. In that vicinity, he found variety of trees and vegetables, with turtle. Weighing anchor September 9th, he passed by the Duke of York's and other inconsiderable islands; and discovered Sandwich Island on the 11th. Having completed the navigation of St George's Channel, an extent of 100 leagues, he proceeded westward, and on the 14th discovered Admiralty Islands, which are beautifully picturesque; and on the 19th, two small islands which he named Durour's and Maty's Islands; on the 24th, St Stephen's Islands, abounding in trees and luxuriant foliage; three inhabited islands, the largest of which he called Freewill Island. At length he arrived on the coast of Mindanas; on the 14th of November, reached the Strait of Macassar; on the 21st, came in sight of two pleasant islets; afterward passed by Pater Noster Island, and anchored in the Road of Bonthain, near the town of Macassar.

Macassar. Thence he sailed May 22—on the 3d of June arrived at Batavia—reached the Cape of Good Hope November 23—touched on St Helena January 20. A. D. 1769—and returned to England in March, after having accomplished a very dangerous circumnavigation of the globe, in a vessel little calculated for such an enterprise, and with supplies the most inadequate.

M. Bougainville, a French navigator, took his departure from Brest, December 5. A. D. 1766, on a voyage of discovery; and arrived at Rio de la Plata, January 30. 1767. At Falkland's isles, April 1. in the name of his sovereign, he surrendered that settlement to the Spaniards; and steered for Rio Janeiro, where l'Etoile a store-ship was appointed to rendezvous. Thence, on July 15, he proceeded to Montevideo, at the mouth of Rio de la Plata, to repair his ships. After several fruitless attempts to enter the Straits of Magellan, he at last succeeded, and reached the South Sea. From Cape Virgin to Cape Pillar, the two extremities of the straits, he computed 340 miles, which he navigated in seven weeks and three days, during the months of December and January. Sailing westward in search of Davis's Island, he found no land in the latitude assigned to its position. Towards the end of March 1768, he discovered four small islands, which he named les Quatre Façardins, abounding in cocoa trees. One of these he called Harp Island; and, at the distance of seven leagues, he perceived a cluster of islands surrounded by a reef of rocks. This cluster was discovered by Quiros A. D. 1606; and in 1721 was visited by Roggewein, who gave it the appellation of the Labyrinth. Bougainville called it "the dangerous Archipelago." On the 2d of April, he noted a steep mountain, which he named Boudeuse Peak, in Otaheite. Having surveyed a considerable portion of this delightful island, he proceeded in his expedition; and, in the beginning of May, discovered the Archipelago of Navigators, the same perhaps with those formerly named "Solomon's Isles." On

Bougainville, 1766.

the 7th he perceived an island, to which he gave the name of "Forlorn Hope;" and, on the 22d, two islands, one of which he called Aurora, and the other Whitsun-isle. Near the former appeared an elevated and wooded isle, which he called the Isle of Lepers, having observed many of the natives afflicted with the leprosy. On the day following, a great number of isles appeared, and received the general appellation of the "Archipelago of the great Cyclades," in 30° S. latitude, and 180° W. of Ferro. These are the New Hebrides of Captain Cook. On the 4th of June, he discovered a low flat island, which he named "the Shoal of Diana:" and on the 10th he approached the N. E. coast of New Holland, where he mistook the strait between it and New Britain for a deep bay, which he called the Gulph of Lousiade. Thence he steered N. E. without the coast of New Britain, and anchored in Carteret's harbour, calling it Port Praslin. Leaving this station, he saw many islands on either hand, to some of which he gave names. Afterwards he navigated Passage des François, a strait formed by the Papou isles: and on the last day of August, he cast anchor in Cajeli Bay, on the coast of Buro, an island consisting of woods, hills, plains, and well cultivated vallies, abounding in black and white ebony, sago, excellent fruits, and noxious serpents. On the 7th of September, he left that station—passed through the Straits of Bouton—came in sight of the coast of Celebes—approached that of Madura—sailed along the level shore of Java—and on the 27th anchored at Batavia. Having refreshed his crew, he returned by the Cape of Good Hope to Europe, and arrived at St Maloes, in March A. D. 1769.

Cook, 1768. Captain Cook, the most enterprising, judicious, and successful navigator that has ever appeared, sailed from England, August 26. A. D. 1768, in the Endeavour, a vessel of 370 tons. Navigating the Strait of le Maire January 14. 1769, doubling Cape Horn, and passing by Lagoon Island and Thrumb Cape, he approached Otaheite April 13. and anchored

anchored in Port Royal harbour. He observed the transit of Venus over the sun, June 3. in 17° 29′ 15″ S. latitude, and 149° 32′ 30″ W. longitude from Greenwich. After his departure from Otaheite, he discovered and visited the Society Islands, in his progress south and southwest to New Zealand, the eastern coast of which he reached October 7. In Mercury Bay, 36° 48′ 5½″ S. latitude, and 184° 4′ W. longitude from Greenwich, he observed the transit of Mercury over the sun's disk, November 9. Having circumnavigated New Zealand, and passed through a strait called by his name, he took his departure from Cape Farewell, March 31. 1770; and on April 19. arrived at Point Hicks on the east coast of New Holland. The whole extent of that coast, above 2000 miles in a strait line, and now called South Wales, he explored, and reached Cape York, its northern extremity, August 21. Passing through Endeavour Straits, he steered his course north and west to Savu, near Timor; returned to Europe by Batavia and the Cape of Good Hope, and anchored in the Downs, June 12. A. D. 1771. In this voyage he was accompanied by Mr (now Sir Joseph) Banks, Dr Solander, and Mr Green, who made many astronomical observations, and collected great variety of natural curiosities.

Surville, 1769.

M. Surville, a French navigator, departed from some port in the East Indies A. D. 1769, proceeded eastward in the latitude nearly of the Philippine Islands and New Britain; and discovered land in 10° S. latitude and 158° E. longitude from Ferro. Thence he steered southward to New Zealand, from the north extremity of which he sailed to Callao, a port on the coast of America.

Hearne, 1770.

Mr Hearne, a member of the Hudson Bay Company, set out from Fort Prince of Wales, on Churchill river, 58° 50′ N. latitude, December 7. 1770, to visit the north-west parts of the American continent. After a tedious journey and voyage, he arrived at Coppermine river mouth, where he saw the northern ocean. The mouth of that river lies in 72°

N. latitude, and about 25° W. longitude from the fort. In the course of his travels he met with a number of lakes of various dimensions (See North America).

Cook, 1772. The existence of a southern continent had not been hitherto ascertained. To resolve this important problem in geography, and to make further discoveries in that hemisphere, two ships were equipped, viz. the Resolution of 462 tons and 112 men, and the Endeavour of 336 tons and 81 men. The former was commanded by Captain Cook, and the latter by Captain Fourneaux. They sailed from Plymouth Sound on the 13th day of July, A. D. 1772, and arrived at the Cape of Good Hope, August 29. Thence they proceeded southward in quest of Cape Circumcision, which they could not find. Directing their course eastward to Zealand, in 60° and 66° S. latitude, they perceived every where to the right vast shoals and fields of ice. On February 8. the two ships were separated by a thick fog, in 50° S. latitude; and Captain Cook shaped his course to New Zealand, and arrived in Dusky Bay March 25. having been 147 days at sea, and sailed 3660 leagues without having once sight of land. Next he steered for Queen Charlotte's Sound, which he reached May 18. and there found the Adventure. In August they arrived at Otaheite; and in September discovered Hervey's Islands. Having visited Middleburgh and Amsterdam, discovered by Tasman, the Adventure and Resolution were finally separated by a furious storm. Captain Cook, however, proceeded south-east in order to make discoveries in the polar regions, but in 66° and 70° S. latitude was interrupted by vast fields of ice. Finding it impossible to penetrate further southward, he altered his course, and in March 1774 visited Easter Island and the Marquesas. Passing a string of little islands, he reached Otaheite April 21. To the westward he discovered Palmerston Island and Savage Island; and having surveyed many other islands in those parts, he steered southward, and anchored in Queen Charlotte's Sound, New Zealand,

land, October 17. to refresh the crew, and put his ship in a condition to encounter the dangers attending the navigation in higher latitudes. On the 10th of November he weighed anchor, and sailed eastward without discovering any continent, till December 17. when he came within sight of Terra del Fuego, the coast of which he surveyed. To the eastward he discovered the island of Georgia, with many snow clad coasts and islands of ice, and on February 22. was within two degrees of longitude from his route to the south, when he left the Cape of Good Hope. As he had now almost completed the circuit of the southern ocean in a high latitude, and traversed it in such a manner as to leave no room for the possibility of there being a continent, unless near the pole, and out of the reach of navigation, the intention of the voyage was fully answered. Therefore he returned by the Cape of Good Hope to England, and arrived at Spithead July 30. A. D. 1775, after an absence of three years and 18 days.

Woods.

Captain John Woods, an able and enterprising navigator, persuaded of the existence of a north-east passage to India, obtained a commission from Charles II. to prosecute the discovery. With two ships under his command he sailed from the Nore, May 28. A. D. 1676. Steering north-east from north cape, on June 22. he approached the main body of ice in 76° N. latitude, and about 60 leagues eastward of Greenland. The ice stretched W. N. W. and E. S. E. On the 28th he came within sight of Nova Zembla, to which the ice extended. The water was shallow, and not more than ten fathoms midway between Nova Zembla and Greenland, which indicates that there is land to the northward covered with ice, and that those two countries are portions of the same continent.

Lord Mulgrave, 1773.

A passage by the north pole had not hitherto been attempted. With this view the Honourable Constantine Phipps, afterwards Lord Mulgrave, received the command of two vessels, the one 350 and the other 300

tons

tons burden. He embarked at Sheerness, January 4. A. D. 1773. In 67° N. latitude, and 0° 58′ 45″ W. longitude from Greenwich, he sounded with a line of 780 fathoms, but found no bottom. At that depth the temperature of the water, by a thermometer, was 26 degrees, while that of the air was 48½°. Amidst fogs, gusts of wind, sleet and intense cold, he proceeded to 74° 17′ N. latitude. On the 29th of June, being in 78° N. latitude, he came within sight of land, which stretched from E. S. E. to N. E. He reached Charles' Island, July 1. and saw some whales at a distance. On the 6th, the islands of ice appeared, stretching from E. and S. to N. by E. He soon found himself entangled by floating ice, from which with difficulty he was extricated. A passage to the pole in that direction was judged impracticable. Sailing along the main body of ice, he perceived land on the 12th, which proved to be Cloven Cliff in 79° 56′ latitude; and in the evening, four or five miles distant from the cliff, he sounded and found a rocky bottom at 15 fathoms. Soon after he saw Hacluit's Head, in 80° 2′ latitude. On the 14th he anchored in Smearing-burgh Haven, where he took in fresh water, and made several astronomical observations. The country of Spitzbergen is awfully romantic, full of mountains, precipices, and rocks; between which are hills of ice, seven of which particularly attract notice, and are called Seven Ice Burghs, of various hues and the most fantastic forms. On the south and west declivities of the rocks, all the indigenous plants, herbs, and mosses spring up, and arrive at maturity between the middle of May and end of July. On the two other sides there is no vegetation. There are many harbours along the coasts, and some islands which direct the course of seamen. On July 19. he steered N. E. to the field of ice, which lay from N. W. to S. S. E. and which he found every where impenetrable; the sea being few fathoms in depth, with a bottom of clay, or mud. When he was not far N. W. of Waygatz Straits, nothing was to be seen but a continent of solid ice, a few islands

islands excepted. He returned to England, September 25. It is scarcely to be supposed that the discovery of a passage to the pole in this direction will ever be again attempted.

Cook, 1776.

On the 12th day of July, A. D. 1776. Captain Cook, with two ships under his command, weighed anchor to sail in quest of a north-west passage, between the continents of Asia and America. Having doubled the Cape of Good Hope, he discovered a tract of land in 48° 40′ S. latitude, and 68° 50′ E. longitude from Greenwich Observatory, which he called the Island of Desolation. Thence he proceeded to Van Diemen's Land in New Holland, and arrived in New Zealand, February 12. A. D. 1777. Having discovered several small islands north of the equinoctial line, and the group called Sandwich isles, he steered to Cape Blanco on the western coast of America. This coast he accurately surveyed to 70° N. latitude; ascertained the proximity of the two continents, and crossed the strait between them; but was prevented from penetrating to the pole by shoals of ice; a circumstance which proves the impossibility of a passage, in this direction, from the Atlantic into the Pacific Ocean. This celebrated navigator returned to Sandwich Isles, where he was killed by the natives of O'Why'hee in a scuffle, February 14. 1779. Captain Clerk, who succeeded in the command, and, after his death, Captain Gore, made another attempt to discover a north west passage, with no better success, and returned by the Cape of Good Hope to England, October 5. A. D. 1780, after an absence of four years and three months nearly.

Peyrouse, 1785.

On purpose to make discoveries, the French fitted out two frigates, A. D. 1785, the command of which was intrusted to M. Le Peyrouse, an experienced and enterprising navigator. On the first day of August, he sailed from Brest Road; and, on the 13th, anchored at Madeira. After a passage of three days thence, he reached Teneriffe, and, October 17th, arrived at Trinidad. He proceeded to the island of St Catherine,—

touched

touched on the coast of Patagonia, January 14. 1786,—passed through the Strait of Le Maire,—doubled Cape Horn,—and cast anchor in Conception Bay, where he received an abundant supply of provisions. On March 17th, he directed his course towards Easter Island, and visited Cook's Bay, in 27° 11′ S. latitude, and 111° 51′ 30″ W. longitude from Paris. That bay is sufficiently sheltered from the S. E. and E. winds. Departing thence, April 10th, he steered northward in quest of a cluster of islands, by the Spaniards called La Mesa, Los Majos, and La Disgraciada, inserted in some maps: but, not finding any land in that latitude, viz. between 20° and 21°, he shaped his course westward to the Sandwich Isles. He reached the American coast, June 23d, in 59° 41′ N. latitude, and observed Mount Elias about 10 leagues inland. Next, he explored that coast as far as Monterey, where he arrived September 15. On the 24th he proceeded to 28° N. latitude, and about 500 leagues from the continent; but did not perceive any signs of land in that latitude, or its vicinity, though some charts have placed there the island of Nuestra Senora De La Gorta. On November 5th he discovered an island, or rock, 500 toises long, and about 60 high, covered with herbage towards its summit, but destitute of trees, and without any landing-place. He gave it the name of Necker Island, in 23° 24′ N. latitude, and 166° 52′ W. of Paris. Having observed a shoal, which he named Basse Des Fregates Françoises, in 23° 45′ N. latitude, and 180° 10′ W. of Paris, he crossed the course of Captain Clerk, 2° 5′ south of the tropic, and 179° east of Paris;—arrived at the Marianas, or Ladrone Islands, December 14. and anchored at Assumption Island, of a conical shape, 40 toises above the level of the sea, and covered with lava. On the 28th, he passed by the northernmost of the Bashee Islands clothed with herbage, in 21° 9′ 13″ N. latitude, and 119° 4[illegible] E. longitude; and on January 3. 1787, arrived in the road of Macao.

Having

Having weighed anchor on February 5th, in 23 days he reached the Bay of Manilla, three leagues S. W. of the town. Thence he sailed northward to Formosa,—reconnoitered the Piscadores, which are an heap of rocks in every variety of form,—passed by Botol Tabaco Xima, a wooded island about four leagues in circuit, and separated from the Bashee Islands by a channel 16 miles in breadth, and proceeded northward near Kumi, an inhabited island, and the most westerly of seven or eight others. In 25° 44′ N. latitude, he discovered two small wooded islands; and, continuing his course northward, approached the Island of Quelpaert, May 21st, the south part of which lies in 33° 14′ N. latitude, and 124° 15′ E. of Paris. It has a peak about 6000 toises high. Passing through the strait between Corea and Japan (May 25), about 15 leagues in breadth, but in most places contracted to 10 by a border of rocks, and inclining to the coast of Japan, he discovered an island three leagues in circuit, which he called Dagelet, and whose north point is in 37° 25′ N. latitude, and 129° 2′ E. longitude. He determined Cape Noto, on the coast of Japan, to lie in 37° 36′ N. latitude, and 135° 34′ E. longitude; and thence stretched N. W. to the coast of Tartary, which he approached (June 15.) in 42° latitude. Along that coast he proceeded northward, almost to the mouth of the river Saghalien. From 51° 32′ latitude, where the island Tehoka, or Saghalien, approaches the continent, he returned south to the extremity of the island, viz. Cape Crillon, which he doubled, thereby verifying the insular situation of Chica, or Jesso. Passing through a strait of the Kurile islands, he steered N. to the bay of Awatscha, or St Peter and St Paul, Kamtschatka, where he arrived September 6. 1787. On the 29th of that month he weighed anchor, with a design to cross the parallel of 37° 30′ latitude, in 165° E. longitude, where some geographers have placed a large, rich, and populous island, said to have been discovered by the Spaniards, A. D. 1620. That parallel he reached, but

found no land. From 180° E. longitude, he shaped his course southward, and on November 4th, was in 23° 40′ N. latitude, and 175° 58′ 47.″ W. longitude. He traversed the latitude and longitude assigned by Byron to his "Isles of Danger;" but no sign of land was observed. December 6th, he came in sight of Bougainville's Navigators Islands, the most easterly of which he found to lie in 14° 17′ S. latitude, and 117° 27′ 7″ W. longitude from Paris; and on the 11th, 12 of the ships crews were massacred by the natives of Maouna. In that archipelago are 10 islands, some of which, in beauty and fertility, are superior to Otaheite. Thence he steered S. S. E. to reconnoitre the Friendly Islands, several of which he explored, and discovered others. On January 1. 1788, he bore away W. S. W. for Botany Bay. After leaving that station in March, the fate of this celebrated navigator is unknown.

Marchand, 1790.

In the years 1790, 1791, and 1792, Etienne Marchand, a French navigator, departed from Marseilles, doubled Cape Horn, discovered a group of islands which form an archipelago with the Marquesas of Mendoza, and explored a small portion of the N. W. coast of America between the Norfolk Sound of Dixon and Nootka Sound. Thence he proceeded, by the Sandwich Islands, and through the archipelago of the Ladrones, to Canton. From Canton he returned by the Cape of Good Hope to France. The discoveries of this navigator are few, and of no material importance.

A degree of latitude measured by

94. During the period in which attempts were made, with various success, to circumnavigate the globe, and to explore regions formerly unknown, philosophers were employed in determining the figure and dimensions of the earth, and of its several parts.

Fernel, 1525.

M. Fernel, physician to Henry II. A. D. 1525, measured a degree of latitude by polar altitudes, from Paris northward; and found it to contain 56746 toises and four feet, i. e. 363071 English feet, or 69 miles nearly.

nearly. From Paris he measured 25 leagues northward to a station three leagues distant from Amiens. The difference of polar altitudes at Paris and at Amiens, is 62 minutes and 36 seconds. If six minutes be deducted for the three leagues of deficiency, 56′ 36″ only will remain; whereas Fernel computed 60 minutes, or a whole degree; so that this error must have been compensated by another in the measurement, otherwise he could not have arrived so near the truth.

Snellius, professor of Mathematics at Leyden, A. D. 1617, published a detail of his operations for ascertaining a degree of latitude. In a plain near Leyden, he measured a base of 326.43 Rhenish perches, or 631 toises and one foot of Paris measure, every perch containing 12 feet, and the proportion of the Rhenish to the Parisian foot being that of 1392 to 1440. By a series of triangles founded on this base, he determined the arc of the meridian between Alcmaar and Bergen-op-zom to be 34018.2 perches, and between Leyden and Alcmaar 14214.9 perches. He observed the altitude of the polar star at Alcmaar to be 52° 40′ 30″; at Leyden 52° 10′ 30″; and at Bergen-op-zom 51° 29′. Having made the requisite corrections, there remained 33930 perches, equal to 1° 11′ 30″, the arc between the parallels of Alcmaar and Bergen-op-zom; and 14255 perches as the measure of the arc between Alcmaar and Leyden, which was 30′ by observation. By the former operation, a degree contained 28473 perches, and by the latter 28510. Taking the round number as a mean, he determined a degree to consist of 28500 perches, or 55100 toises. A toise of Paris being 6.3945 English feet, a degree, according to Snellius, contains 66.73 English miles. M. Cassini, A. D. 1697, revised these operations. Observing the polar altitude at Alcmaar to be 52° 38′ 34″, and at Rotterdam 51° 56′ 29″, he found the difference to be 42′ 5″. From the measurement of Snellius, he computed the distance between the parallels of those places to be 21185 perches,

Snellius, 1617.

or 40958 toises. His stations being different from those of Snellius, he reduced the distance to 40898 toises, the measure of an arc of 0° 42′ 6″, which makes a degree consist of 58287 toises, i. e. 70.6 English miles nearly. To account for this excess, he calculated the triangles made use of by Snellius, and found several material errors, which could be corrected only by a new process (Mem. de L'Acad. A. D. 1702. p. 60.). On a revision of this memoir, M. Cassini, A. D. 1718, by a series of calculations, computed a degree to contain 56463 toises; and by a subsequent operation 56496; so that no certain conclusion can be deduced from the observations and measurement of Snellius.

Norwood, 1633. The next attempt of this nature was made by Richard Norwood, professor of mathematics in London. Measuring the distance between London and York, and taking the sun's meridian altitude, at the summer solstice of the years 1633, 1634, and 1635, he found a degree of latitude to contain 367196 English feet. At the same time he determined the latitude of London to be 51° 30′, and that of York 53° 58′. But his operations are not to be confided in; for London and York are not under the same meridian; and the distance between those places was not measured with accuracy, part of the way being paced, and proper allowance not being made for curvatures, ascents, and declivities.

Riccioli, 1644. Jo. Baptista Riccioli measured a degree by a very simple method, which had been suggested by Kepler, but is extremely liable to error. In the year 1644, he found the distance between two stations, Mount Paderno and the Tower of Modena, to be 20016 Bologna paces, or 12469,968 English feet. Without the aid of celestial observations, he measured the angles at each of these stations, and found the angle at Modena to be 90° 15′ 7″; and the angle at Paderno 89° 26′ 13″ 27‴. The sum of these angles being 179° 41′ 20″ 27‴, the remaining angle, or the arc which it subtends, was 18° 29″ 23‴ equal to the given distance between the stations, viz. 20016 paces. Hence he computed a

degree

degree to be 64363 paces, or 76 English miles nearly. But as this method supposes a plummet to be suspended in a line perpendicular to the centre of the earth, and no refraction, it ought not to be adopted.

Again, by the observation of Lyra a fixed star, he found the arc between the zeniths of Mount Paderno, near Bologna, and the Tower of Modena to be 19′ 25″, which corresponded to the distance between these places, viz. 20439 paces. Thence he determined a degree to be 63159 paces, or 74½ English miles nearly.

By a process still more simple, A. D. 1654, he observed the distance of the Swan from the zenith, when this star is in the common meridian of Mount Paderno and Modena, and found the distance between the zeniths of these places to be 19′ 19″, or 20439 paces, and a degree to consist of 63486 paces, or 74.7 English miles.

Other methods adopted by Riccioli were still less accurate.

M. Picard was employed by the King of France to determine this point with the greatest possible exactness. In the year 1669, he measured for a base the distance between Villejuif and Juvisy, which amounted to 5663 toises. By a series of triangles he ascertained the distance of Sourdon from Malvoisine to be 68450½ toises. By several observations of the same star at these places, he found the arc between their zeniths to be 1° 11′ 57″, answering to 68430½ toises: whence he computed a degree to be 57064½ toises, i. e. 364899 English feet, or 69 miles and 479 feet. Having measured afterwards the distance between Malvoisine and Amiens, or between the two stations at these places, which he found to be 78850 toises, and the arc between their zeniths to be 1° 22′ 55″, he concluded a degree to contain 57057 toises. He adopted the mean between these results, viz. 57060 toises of Paris, i. e. 364870 English feet, or 69 miles 550 furlongs. Picard, 1669.

In the year 1756, this measurement being corrected, it was found, that the toise he made use of in measuring his base, was too short by a line His measurement corrected.

line nearly. On a base of 5717 toises, and by a series of triangles, the distance of the observatory of Paris from the cathedral of Amiens, was determined to be 60390 toises. The corresponding arc in the heavens was equal to 1° 1′ 13″$\frac{1}{10}$. Hence a degree of latitude was found to consist of 57072 Parisian toises, or 57069 toises used in measuring a degree at the equator, equal to 364947 English feet, or 69 miles 627 furlongs. Essential improvements having been recently made on mathematical and astronomical instruments of all sorts, still greater accuracy has been attained by subsequent attempts to ascertain the measure of a degree of latitude.

The earth a spheroid.

The earth being supposed a perfect sphere, and M. Picard's measure of a degree being nearly accurate, a great circle would be found to contain 2054920 toises, or 24882.1 English miles. But, if the earth be not completely spherical, degrees of latitude will differ one from another, and any given degree will not be the 360th part of the circumference. The exact figure of the earth was not determined in the last century. A question was agitated among astronomers, Whether this globe is elevated or depressed toward the poles? Huygens and Newton maintained the latter, and Cassini the former, hypothesis. This dispute subsisted upwards of 50 years. Two methods of determining this important point have been suggested. The one is that of Sir Isaac Newton, who, from the known gravity of bodies at any given place, the quantity of centrifugal force at the equator, and the time of a diurnal revolution, inferred the true figure of the earth, and found that the equatorial diameter is to the axis as 230 to 229, or more exactly, as 231 to 230. The other method is by actual measurement, either of two degrees of a meridian, or of two pendulums, in different latitudes: for the comparison of the arcs measured, or of the lengths of the pendulums, will, by a plain rule, give the ratio of the earth's diameters, on the supposition that its true figure is a geometrical spheroid.

To

To ascertain this ratio with accuracy, the Academy of Sciences at Paris obtained a royal mandate to measure several degrees in different latitudes. The execution of this order was sometime delayed by the death of M. Colbert, the patron of that society. After various interruptions, M. Condamine and two assistant astronomers, A. D. 1735, were sent to Quito in South America, to measure a degree under the equator; while Maupertuis, Clairaut, Camus, and Monnier went to Torneo in Sweden, in the year 1736, to measure a degree under the arctic circle. The latter, on a base of 7406 toises and 5 feet, measured the distance between Torneo and Kittis, reduced to the same meridian, that is, the distance between the parallels of these places, which was found to be 55023.47 toises. The corresponding arc of the meridian was observed to be 57′ 28¾″: consequently, a degree in 66° of latitude must contain 57437.9 toises. Sixteen toises being deducted for the refraction, 57421.9 will remain, which is 350 toises greater than a degree of Paris; a proof that the earth is flattened toward the poles. The academicians in South America ascertained the distance between Cotchesqui and Tarqui in Peru to be 176950 toises, and the corresponding arc in the heavens to be 3° 7′ 1″. By these operations, a degree under the equator was found to contain 56753 toises, i. e. 362906 English feet, or 68 miles and 4296 feet, which is 321 toises, or 2052.6 English feet less than a degree at Paris, and 4296 feet less than a degree under the polar circle.

Degrees measured in different latitudes.

Several degrees have been measured in other latitudes. M. de le Caille, A. D. 1751, found a degree in 38° 18′ 30″ S. latitude, to consist of 57037 toises, or 69.08 English miles. M. Mason and Dixon, in 39° 12′ N. latitude, determined a degree to be 56888 toises, or 68.9 miles. In 43° N. latitude, between Rome and Rimini, Boscovich measured a degree of 56979 Parisian toises, or 56972 toises of the equator. In Piedmont, 44° 44′ N. longitude, a degree, according to Beccaria, contains 57069 toises or 69.11 English miles. In Hungary, 45° 57′ N. latitude,

Liesganig

Liesganig found a degree to be 56881 toises, or 68.9 miles. General Roy's estimation of a degree has been already mentioned. By these measurements, corrected and compared, the true figure of the earth is determined to be an oblate spheroid, the proportion of whose diameters is as 266 to 265.731.

Some of the results now expressed are not sufficiently accurate, owing to the imperfection of the instruments used in the various operations, to the lateral attraction of mountains, to the defect of attraction on the sea coast, to different lengths of toises, and to certain irregularities on the surface of the earth.

In the year 1773, Lord Mulgrave found that a pendulum, which vibrates seconds in London, will gain from 72 to 73 seconds in the space of 24 hours in 79° 50′ N. latitude. According to this observation, the equatorial diameter is to the axis of the earth as 212 to 211 nearly, which differs not considerably from the computation of Sir Isaac Newton, who supposed a pendulum, in that high latitude, to gain 69.9 seconds in a mean solar day.

On the supposition of the earth being compressed at the poles, the degrees of the meridian must increase as we proceed northward; and, in our latitude nearly, each degree, at an uniform rate, must exceed that immediately to the south of it by about 20 fathoms, according to the theories which makes the earth's oblateness greatest, and by about 10 according to those that make it least. But, in the trigonometrical survey of England and Wales already mentioned, this has been found not to be the case: for in 50° 44′ 24″ latitude, a degree of the meridian is 60851 fathoms; in 51° 35′ 18″ latitude, it is 60864 fathoms; in 52° 2′ 20″, it is 60820; in 52° 50′ 30″, it is 60766. The cause of these irregularities has not been ascertained. But the further prosecution of this subject will no doubt lead to the knowledge of the truth, and will determine with precision the figure of the earth.

It

It may be proper to add a table of degrees of latitude in toises and in English miles:—1st, On the supposition that the excess of every degree above the first, is as the fourth power of the sine of latitude;—and, 2d, That the same excess is as the square of the sine.

Table of Degrees of Latitude in Toises, &c.

THE FIRST HYPOTHESIS.			THE SECOND HYPOTHESIS.		
Deg. of latitude.	Toises of Paris.	English miles and feet.	Deg. of latitude.	Toises of Paris.	English miles and feet.
0	56753	68 1384	0	56753	68 1384
10	56754	68 1390	10	56776	68 1531
20	56766	68 1467	20	56843	68 4492
30	56813	68 4273	30	56946	68 5023
35	56856	68 4575	35	57007	69 234
40	56917	68 4938	40	57072	69 650
45	56993	69 144	45	57139	69 1078
50	57083	69 720	50	57206	69 1506
60	57292	69 2056	60	57332	69 2312
70	57501	69 3393	70	57435	69 2971
80	57655	69 4377	80	57502	69 3400
90	57712	69 4742	90	57525	69 4346

95. With regard to the degrees of longitude, it may be observed, that they are reckoned from first meridians, which are fixed at pleasure, nature not having given one meridian line a preference to another. After the discoveries of the Portuguese, some geographers reckoned the longitude of places from the island of Terceira, one of the Azores; and others from St Nicolas, one of the Cape Verd Islands. Mercator preferred the islands of Corvo and Flores, the most westerly of the Azores; and in all his

First meridians.

his maps published by Hondius, the island of Fer is placed in the third degree of longitude; but that publisher has given it twelve degrees of longitude in a map of Africa. Janson, in his four maps of the world, and Blaeu in his atlas, fix, as their first meridian, the Peak of Teneriff, which is 19° W. of Paris; and this meridian is adopted by the generality of Dutch geographers. Ortelius, however, in his universal map, Mercator, junior, and Bertius, have reckoned from the island of Fuego, or St Philip, one of the Cape Verd Islands, where the needle has no variation. The meridians, which pass through these islands, are about six degrees west from the Canaries. In Spain, Toledo is sometimes considered as the first meridian: and, in England, degrees of longitude are generally computed from London, though astronomers prefer the Royal Observatory at Greenwich. Upsal is the first meridian in Sweden. Riccioli, and some other geographers, fixed on the island of Palma, which they supposed to be the most westerly of the Canaries. From Pekin westward, the Chinese reckon longitudes of places. The western extremity of the island of Ferro, or Fer, one of the Canaries, is the first meridian in Sanson's map, and, in the year 1634, was fixed, by an assembly of French mathematicians, to be the first meridian of France. This island is generally reckoned 20° W. of Paris, and 17° 40′ W. of the Observatory at Greenwich. To this meridian all places are referred in the construction of French maps; but, in astronomical tables, longitudes are reckoned from the meridian of Paris.

If longitudes were always reckoned from the same meridian, much confusion and many mistakes in geography would be avoided. Meantime, by a table annexed, degrees of longitude, in any given map, may be easily reduced to those which are reckoned from a different meridian (See a table of longitudes and latitudes of places).

96. Longitudes were formerly reckoned from the first meridian eastward, quite round the globe, the circumference of which contains 360 degrees. But it is now found more convenient to divide the globe into

two

two hemispheres, and to reckon both eastward and westward 180 degrees: and this method is generally used by modern geographers.

Extent of degrees of longitude.

As all meridians unite at the poles, and as degrees of longitude are computed on circles parallel to the equator, it is obvious that the extent of those degrees must be different in different latitudes. They are greatest on the equator, and gradually diminish as their circles approach towards the pole. In estimating their extent, on the supposition that the earth is a sphere, a degree of longitude is to a degree of latitude, as the radius is to the co-sine of latitude. Thus, a degree of latitude at Paris being 57074 toises; this number multiplied by the co-sine of 48° 50′ 14″ will give 37566 toises, the extent of every degree on the parallel of Paris. But, if the earth be supposed an oblate spheroid, this rule will make the degrees of longitude too small. On this supposition, the proper rule is the following, *viz.* for any given place find a degree of a great circle perpendicular to the meridian; and multiply this degree by the co-sine of latitude; the product will be the extent of every degree of that parallel upon an oblate spheroid. Thus, for the latitude of Paris, a degree of a great circle perpendicular to the meridian, contains 57471 toises; which, multiplied by the co-sine of latitude, gives 37833 toises, the extent of the degree of longitude required.

A degree of a circle parallel to the equator, in any given latitude, may be found by the following formulæ.

Suppose half the polar axis of the earth to be 1, and the compression at each pole, or the excess of the radius of the equator above the semi-axes, to be equal to the fraction $\frac{1}{m}$. Let D be a degree of the meridian under the equator; d a degree of the meridian in any other latitude, as λ; Δ a degree of the equator itself; and δ a degree of a circle parallel to the equator in the latitude λ. Then we have

$1^{mo.}\ d = D\ (1 + \frac{3}{m} \sin {}^2\lambda)$: so that $\frac{3D}{m} \sin {}^2\lambda$ is the number of toises to be added to D, or to 56753 toises, the measure of a degree of the meri-

dian under the equator, in order to have d the degree of the meridian in the latitude λ. When the latitude, or $\lambda = 90°$, then d is the degree at the pole, and is $= D\ (1 + \frac{3}{m})$ because sin $\lambda = 1$.

$2^{do.}$ $\triangle$, or the degree of the equator $= D\ (+\frac{1}{m})^2$. To find the degree of the equator, therefore, multiply the degree of the meridian under the equator by the square of $1 + \frac{1}{m}$, or add to D the number $\frac{2D}{m}$; the sum is a degree of the equator.

$3^{tio.}$ $\delta = (1 + \frac{1}{m} \sin {}^2\lambda)\ (\cos. \lambda)\triangle$; that is, multiply the degree last found into the co-sine of the latitude, and that product by $1 + \frac{1}{m} \sin {}^2\lambda$; the result is a degree of the parallel λ. These measures are all in toises. m, according to the proportion of Sir Isaac Newton, is to be supposed 229 or 230; and so $\frac{1}{m} = \frac{1}{229}$ or $\frac{1}{230}$.

A Table of Degrees of Longitude estimated in English Miles, according to M. Vince.

Deg. of Lat.	Degrees of Longitude. Miles. Deg.	Deg. of Lat.	Degrees of Longitude. Miles. Deg.	Deg. of Lat.	Degrees of Longitude. Miles. Deg.	Deg. of Lat.	Degrees of Longitude. Miles. Deg.	Deg. of Lat.	Degrees of Longitude. Miles. Deg.
0	69 2000	21	64 6037	42	51 4253	63	31 4161	84	7 2335
1	69 1896	22	64 1609	43	50 6094	64	30 3352	85	6 0315
2	69 1578	23	63 6986	44	49 7783	65	29 2453	86	4 8274
3	69 1052	24	63 2177	45	48 9313	66	28 1464	87	3 6219
4	69 0312	25	62 7167	46	48 0705	67	27 0385	88	2 4151
5	68 9363	26	63 1963	47	47 1944	68	25 9230	89	1 2075
6	68 8208	27	61 6579	48	46 3038	69	24 7992		
7	68 6845	28	61 1001	49	45 3994	70	23 6678		
8	68 5267	29	60 5237	50	44 4811	71	22 5294		
9	68 3481	30	59 9293	51	43 5489	72	21 3842		
10	68 1489	31	59 3162	52	42 6037	73	20 2320		
11	67 9288	32	58 6851	53	41 6453	74	19 0743		
12	67 6880	33	58 0360	54	40 6751	75	17 9103		
13	67 4264	34	57 3696	55	39 6917	76	16 7409		
14	67 1448	35	56 6852	56	38 6959	77	15 5665		
15	66 8424	36	55 9842	57	37 6891	78	14 3874		
16	66 5192	37	55 2659	58	36 6705	79	13 2041		
17	66 1760	38	54 5303	59	35 6408	80	12 0166		
18	65 8134	39	53 7788	60	34 6000	81	10 8250		
19	65 4300	40	53 0100	61	33 5489	82	9 6306		
20	65 0265	41	52 2259	62	32 4873	83	8 4334		

The

The use of the foregoing table will be obvious by an example. Suppose, in 49° N. latitude, the breadth of France between the two extreme meridians be 13 degrees. The meridians in that latitude are distant from one another 45.4 English miles. Multiply this number by 13, and the product, 590 miles, is the extent of France from west to east, in 49° N. latitude.

A scale of miles is commonly annexed to maps, in order to ascertain the value of any number of degrees of longitude, or of latitude. But by any scale this cannot be effected with accuracy; for degrees of longitude, or of latitude, are never of the same extent, except under the same parallel. By the foregoing table, and that of latitudes, degrees may be estimated with some precision.

96. To determine the longitudes of places, various methods have been proposed. At land the operation is easily effected by astronomical observations; for the difference of time in any two places, converted into degrees of the equator, gives the difference of longitude between them. But at sea, every observation made on board to this effect, is disturbed by the irregularities of the motion of a ship. To remedy this inconvenience, none of the means hitherto suggested has been found completely to answer the purpose. Methods of finding the longitudes.

1. A regular movement, or time-keeper, being requisite in all astronomical observations, has been long a desideratum at sea. A clock, or any machine, whose regularity depends upon a pendulum, will not divide time with sufficient exactness, when the body to which it is attached is in motion. Not many years ago, Mr Harrison, in London, constructed a watch, by the help of which the longitude at sea was found within half a degree; and he received a considerable premium for his discovery. But a machine, simpler and less expensive, would be more extensively useful, and still is wanting. By clock.

The

By the satellites of Jupiter.

The immersions and emersions of Jupiter's satellites would give the longitude with great precision, if these could be observed at sea with the same accuracy as at land. But a telescope cannot be managed properly on shipboard, so as to make observations without any error. To find the longitude by this method, observe the beginning and end of an eclipse of any of the satellites, and compare the time of observation with that of the meridian of Paris, or of Greenwich, as expressed in the Ephemeris, or nautical almanack. The difference of time, converted into degrees and minutes of the equator, will give the longitude east or west of these places. The longitude from Paris, or Greenwich, thus found, may be easily adapted to any other first meridian. It is scarcely necessary to add, that, if the place of observation be eastward from Greenwich, or Paris, the beginning of the eclipse will happen sooner, and if it be to the west, the beginning will be later, than at the one, or the other, of those places.

By the variation of the needle.

3. Navigators have attempted to find the longitude at sea by the variation of the needle. But, as the quantity of its variation is not uniformly the same, and as no theory has been hitherto devised to ascertain the degree of change, except what is founded upon observation and experiment, this method cannot be relied on, as no sufficient number of observations and experiments to this effect has been made.

By astronomical tables.

4. No help, perhaps, has been more beneficial to the navigator, in the adjustment of his reckoning, and the direction of his course, than the accurate tables published annually in Paris and in London, under the titles of the Ephemeris, or Connaissance des Tems, and the Nautical Almanack. Occultations of fixed stars by the moon—solar and lunar eclipses—conjunctions of the moon with the planets and fixed stars, and eclipses of Jupiter's satellites, enable the mariner to find out his longitude with exactness sufficient for most nautical purposes.

The most approved method of determining the longitude at sea is by lunar observations, and is performed by observing the angular distance between

between the moon and the sun, or a fixed star, and comparing their distance with the calculated distance in the Nautical Ephemeris. But, as these observations are made from the surface of the earth and not from its centre, the sun and moon appear below their true places in the heavens. This apparent depression is called parallax. All celestial objects are affected in a contrary manner by the refraction of the atmosphere, which makes them always seem higher than they really are. Both these effects are greatest in the horizon, and gradually diminish toward the zenith, where the object appears in its true place. All the heavenly bodies, except the moon, are raised more by refraction than they are depressed by parallax, and therefore appear above their true place in the heavens: but the moon always appears below her true place, being more affected by parallax than refraction, owing to her proximity to the earth. Therefore the distance observed between the moon and the sun, or a fixed star, will be variously affected, according to their situation in the heavens; and the apparent distance will sometimes be a whole degree less, and at other times more, than the true angular distance, if observed from the centre of the earth.

To ascertain the correction for these various and contrary effects of parallax and refraction, so as to obtain the true distance of the objects, M. De La Caille composed a table, which he published in his Treatise on Navigation: but as several lines must be drawn with great care, few navigators can perform this graphical operation with sufficient accuracy. Mr Margett, A. D. 1790, designed 70 graduated plates, where, without drawing any lines, may be found by a single inspection, the two corrections for each degree of distance from 20° to 120 degrees, for every degree of the altitude of the sun, and of the moon, from 5° to 90 degrees. In another figure, he has constructed a proportionable table for 12 hours, and for one hour, with proportional parts. The degrees are converted into time. The increase of the semidiameter of the moon,

according

according to its altitude and the dip of the horizon, is shewn. He has likewise formed horary tables, which exhibit time by inspection, together with the latitude of a ship, and the azimuth or altitude of any celestial object. In short, his tables contain every thing essential to navigation; and, by the inspection of them, the longitude may be determined, in less than a quarter of the time required by any other method of calculation, with equal accuracy, and less danger of mistakes.

By the Nauscopic.

5. A discovery equally important and astonishing was some years ago announced; and I mention it here, because it attracted the attention of the public, though it exceeded comprehension and belief. If, on further trial, it be found adequate to the author's account, it would prove eventually to be of signal service in determining the longitude at sea, and in other geographical cases. The substance of the information communicated to the public, A. D. 1786, is as follows:

1. M. Bottineau, A. D. 1764, was stationed by the French East India Company, on the Isle de France, 20° S. latitude, and 57° 30′ E. longitude from Greenwich. 2. By diligent observation of the state of the atmophere near the horizon, he acquired the art of announcing the approach of vessels, long before they became visible from the summit of the highest mountain in the island. 3. When the wind was favourable, he perceived and intimated their approach, at the distance of 200 leagues. 4. On a trial made by the Board of Marine in the Isle de France, his observations were verified. In the space of eight months, under their inspection, he foretold the approach of 155 vessels, at sixty-two different times. 5. In his voyage from the Isle de France to Port l'Orient, he notified the advance of 27 vessels, and of three different points of land. 6. This art, he says, is not owing to any superior subtelty of vision, nor to any undulous motion on the surface of the sea, but to a certain appearance in the atmosphere. 7. This appearance, meteor, or nebulous satellite is, at first, very imperfect; but, in the gradual

dual progression of the body by which it is excited, it acquires consistency, form, and colour, so as to be easily distinguished from other clouds and vapours. 8. Long before the ship becomes visible at the station of the observer, this meteor attains a consistency which no wind can entirely destroy: but in a perfect calm it loses perceptible existence. 9. By means of this phenomenon alone, the distance and even the number of ships may be determined. Such is the wonderful account of this discovery, published by the author in France, while he was soliciting the court to order his observations to be verified. That his pretensions were well founded, is extremely doubtful; for an art no less useful than marvellous, if communicable, could not have been so long concealed.

Projection of the sphere.

97. The projection of the sphere, a material improvement in geography, remains to be treated. The accuracy of a spherical projection consists in delineating, on a plane, a portion of the globe in such a manner, that places marked, according to their longitudes and latitudes, shall bear the same relation, one to another, as on a sphere.

anciently imperfect.

The projections of the ancients were constructed in a very rude manner. Meridians were parallel lines, and degrees of longitude were equal to those of latitude. But it is impossible for the eye to be so situate with respect to the plane, that both the parallels and meridians will appear to be straight lines.

Some geographers have represented the entire surface of the globe in one planisphere; but this method renders the parts near the equator, and the polar circles, quite disproportionate. A specimen of such a map may be found in the first vol. of Harris's Collection of Voyages. The mode of spherical projection proposed by Ptolemy, according to which the equator and parallels of latitude are arches of great circles, and meridians are arches of ellipses, has been some time exploded.

Orthographic projection.

The surface of the globe is commonly represented in two divisions, or hemispheres. If the eye is supposed to be placed in the direction of the

axis of any great circle, as the equator, meridian, &c. this circle will appear to encompass, or to bound, the horizon. On this principle, polar, horizontal, oriental, and occidental projections are delineated.

In what is called the *Orthographic* projection, the eye is supposed to be at an infinite distance. An infinite number of straight lines, from the convex surface, fall perpendicularly on the plane of projection. A circle parallel to the plane retains its figure and dimensions; but if it is oblique it becomes an ellipses; and, if perpendicular, it appears and is described as a straight line.

In polar orthographic projections, that is, when the eye is supposed in the direction of the polar axis, the pole will be the centre, parallels of latitude will be concentric circles, and the equator will be the primitive circle, or boundary of the projection; meridians will be straight lines equal to the diameters of those circles, and the horizon and vertical circles will be ellipses.

Horizontal projections.

In horizontal projections, meridians and circles of latitude are ellipses, but these are never used in geography.

In oriental and occidental projections, circles of latitude are represented as straight lines equal to their diameters, and meridians are ellipses, whose great diameters are equal to the axis of the earth, and whose small diameters are in proportion to their obliquity. As those parts which fall near the circumference of the plane, are too much contracted from the centre outwards, this projection must be improper for maps of the hemisphere, or quarters of the globe; but it may be used in delineations of particular countries, or of the regions in the vicinity of the pole.

Stereographic projection.

98. The *Stereographic* projection is generally preferred by geographers. Here the eye is supposed to be placed at the surface of the globe, and at the pole of the circles to be delineated. In a polar hemisphere, right lines from the centre to the circumference represent meridians; and concentric circles are parallels of latitude. In horizontal, oriental, and

and occidental projections, parallels and meridians, except circles perpendicular to the plane of the projection, are represented by portions of circles.

On these principles, a map, for instance, of the northern hemisphere may be constructed as follows: The eye being fixed at the south pole, the plane of the equator will be that on which the map is to be delineated. Lines from all parts of the hemisphere, directed to the eye, will penetrate that plane; and the points through which they pass will represent those in the hemisphere whence they proceed. This would be more easily conceived by means of a glass hemisphere, on which the regions, seas, &c. of half the globe are pourtrayed. If this hemisphere were placed on a plane of glass, opposite to the eye, its contents would appear to be projected on the plane. The equator would be the boundary of the projection; circles parallel to the equator would retain their circular form, gradually diminishing as they approached the centre; meridians would be the diameters of these circles; horizontal and vertical circles would be elliptical; and the position of every place, presented on the plane, would be the point where its meridian intersects its parallel of latitude. The southern hemisphere may be described in like manner, the eye being placed at the north pole. Construction of a map.

Sometimes the position of the eye is supposed to be in the plane of the equator, ninety degrees from the first meridian. In this case, the map is the plane of this meridian, which circumscribes the projection. The equator is a straight line, and the diameter of the first meridian. The meridian over which the eye is placed, and which is ninety degrees from either extremity of the pole, is a straight line perpendicular to the equator, and the extremities of this line are the poles. Other meridians, and the parallels of latitude, are portions of circles, which may be described in the following manner.—Let the first meridian, or outer circle, be divided into degrees, at the rate of ninety in every quadrant, reckoning from the

equator to the poles. From either of the poles draw straight lines to every degree of the two opposite quadrants. Through the points where these lines intersect the equator, or, at least, through every tenth degree, reckoning from the first meridian, or boundary of the projection, describe a portion of a circle to each pole. The centres of these circles may be easily found, three points being ascertained through which they must pass, viz. one in the equator and the two poles. The simplest method of finding these centres is as follows :—Extend the equator at pleasure from one extremity, and from one of the poles draw lines through the several divisions of the first meridian, or outer circle, to the continuation of the equator. The distances between the points where these lines terminate, and the corresponding points on the opposite side of the equator, will be the radii of the circles to be described. The meridian line, perpendicular to the equator, and in the centre of the hemisphere, may be divided into twice ninety degrees, by drawing obscure lines from one extremity of the equator to every tenth degree in the opposite quadrant of the first meridian, or by transferring the divisions of the equator to the meridian line. Through these and the corresponding points in the periphery, the parallels of latitude are to be described. The ecliptic, bisecting the equator in the centre, will be represented by a straight line forming an angle of 23° 28′ with the equator : but, if the point of intersection be in the first meridian, or outer circle of the hemisphere, the ecliptic will compose part of a circle, two points of which will be the extremities of the equator, and a third point will be found where the central graduated meridian bisects the tropics.

Defect of this projection.

The stereographical projection, though adopted by the generality of geographers, does not exactly represent the positions and relative distances of places ; for, although the meridians and parallels cut one another at right angles, the spaces near the outer circle appear too much extended, and near the centre too contracted. The island of Madagascar, for instance, in

in the middle of the projection, is about four times less than it would appear if placed toward the boundary; and the dimensions of Great Britain, near the first meridian, are considerably larger than their just proportions. In maps of particular provinces this is less perceptible.

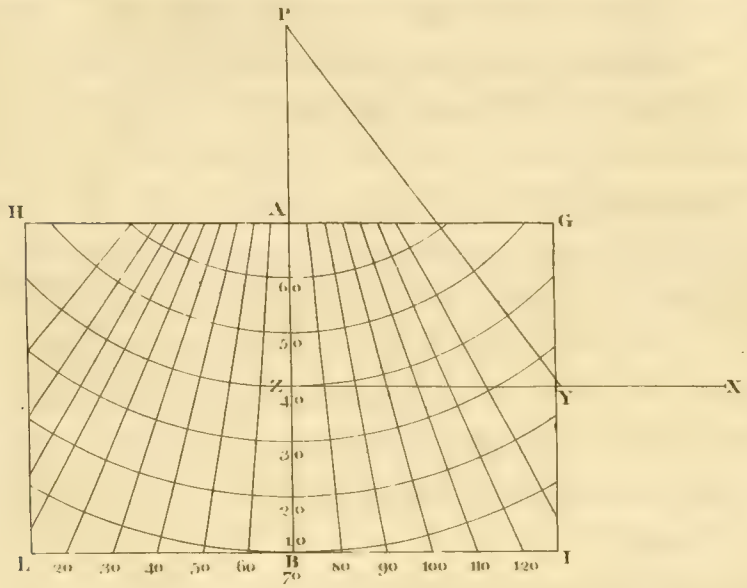
On these principles, however, the maps of the most eminent geographers have been constructed. The four grand divisions of the globe have been delineated in this manner by M. de Lisle; the meridians and parallels intersect each other at right angles, but the lineal distances, except towards the circumference, are diminished, insomuch that the degrees near the centre are not more than half of those at the extreme circle. M. Robert de Vaugondy has constructed maps of Europe and of Russia, in which, the eye being placed at the pole, the equator is the projection. The parallels are concentric circles, and the meridians are straight lines unequally divided.

99. In the greater part of maps two essential defects are to be observed. The lineal distances are obviously erroneous, and the circles intersect one another obliquely, so that a quadrilateral rectangular space is, for the most part, represented by an oblique angled rhomboid. The best construction of a map.

The latter of these defects is, in part, removed in some maps of Schenk's at Amsterdam, in the Germania Critica of Mayer, and in several maps constructed by Senex, Robert, Danville, and Buache. In these the meridians are straight lines converging to a point beyond the pole, which is the centre of the parallels of longitude.

Maps of this construction are portions of the surface of a cone, about twice the height of the semidiameter of the globe within which it falls. As the surfaces of the hemisphere and cone, when placed on the same basis, are at a small distance from each other, the dimensions and positions of the several parts of a map, thus constructed, will remain nearly the same as on the sphere. This projection was devised by Dr Murdoch, who published

published a particular account of it in the Philosophical Transactions, Vol. L. A. D. 1758. It is constructed as follows :—



Let AB be the depth of the map divided into equal parts of known dimensions, or degrees of latitude. From Z the middle point, or latitude, draw the line ZX perpendicular to AB; and from A draw AY meeting ZX in Y, making with AZ the angle ZAY equal to the complement of the middle latitude. From Y draw YP making with AY the angle AYP equal to the complement of the greater extreme latitude, and meeting ZA produced in P. The point P will be the common centre of all the parallels of latitude.

Example.—Let the extreme latitudes A and B be 10° and 60°; then the middle latitude, or Z, will be 35°; and its complement, or the angle ZAY, will be $=55°$: and since the greater latitude is 60°, its complement, or the angle AYP, will be $=30$.

Since Radius : cotang. ZYA : : AZ : ZY, we shall have ZY $=AZ$, cot. ZYA.

And

As ince Radius : cotang. $ZPY :: ZY : ZP$, we shall have $ZP = ZY$, cot. ZPY.

That is, $ZP = AZ$, cot. ZYA, cot. ZPY.

Therefore, multiply the cotangent of the middle latitude into the cotangent of half the difference of the extreme latitudes, and the product into half the depth of the map divided into any number of known equal parts; the last product will be the length of the line ZP in the same parts.

In the present example, the cotangent of the middle latitude, or of 35°, is I,428148, whose logarithm is 10,1547732. The cotang. of half the difference of the extreme latitudes, or of 25°, is 2,144507, whose logarithm is 10.3313275.

Add . . .	10,1547732
To	10,3313275
	0,4861007
Add the log. of $AZ = 25$ . .	1,3979400
ZP, the number corresponding to . . .	1,8840407

This logarithm is 76,567.

Hence it appears, that if the depth of the map be 50 inches, the length of ZP will be 76,567.

If the map lies on different sides of the equator, each side is to be described as above directed.

The properties of this mode of constructing maps are the following: I. All the Meridians are right lines, and converge towards the vertex of the cone, as the circular meridians on the globe converge towards the pole. 2. The distances north and south are nearly exact, so that any meridian line may be used as a scale. 3. Parallels of latitude are equidistant, as on the globe. 4. Meridians and parallels intersect each other

at

at right angles. 5. The quadrangular spaces formed by the meridians and parallels have their diagonals equal, a property peculiar to this projection. 6. The quantity of surface represented in this map is nearly the same as on the globe.

its defects. In a map of this construction, however, the distances of places at top, middle, and bottom, are represented to be greater, or less, than they are on the globe. In one part the errors are in defect, and in another they are in excess. This must be obvious to any one acquainted with the accommodation of a cone to a sphere, and who recollects that a conical surface is a mean between a convex surface and a plane.

Mercator's map. 100. Gerard Mercator, an eminent geographer in Flanders, about the middle of the 16th century, published a map of the world, on a new construction, and of great use in navigation. In this map the degrees of longitude are equal, and the degrees of latitude increase towards the pole proportionally to the inverse ratio of the co-sines of latitude, or direct ratio of the secants. Thus, at 60° latitude where a degree on the parallel circle is half the extent of a degree on the equator, the degrees of latitude in this map are doubled, and those of longitude are the same as at the equator. Meridians and parallels are straight lines. The relative situation of places is not changed: the scale only augments as it advances towards the pole. To facilitate the construction of this map, a table of increasing latitudes, called a table of meridional parts, was invented by Edward Wright, who published a particular account of it, A. D. 1599, entitled, The *Correction of certain Errors in Navigation*; where he assigns the reason of this division, and points out the manner of constructing the table, together with its uses in navigation.

TABLE

TABLE OF MERIDIONAL PARTS.

TABLE I.—*Meridional Parts reduced to Degrees of Longitude.*

Lat.	Mer. parts.	Mer. degrees.	Lat.	Mer. parts.	Mer. degrees.	Lat.	Mer. parts.	Mer. degrees.	Lat.	Mer. parts.	Mer. degrees.
79	8046	134.1	59	4409	73.5	39	2545	42.4	19	1161	19.3
78	7745	129.1	58	4294	71.6	38	2468	41.1	18	1098	18.3
77	7467	124.4	57	4183	69.7	37	2393	39.9	17	1035	17.2
76	7210	120.1	56	4074	67.9	36	2318	38.6	16	0973	16.2
75	6970	116.1	55	3968	66.1	35	2244	37.4	15	0910	15.2
74	6746	112.4	54	3865	64.4	34	2171	36.2	14	0848	14.1
73	6535	108.9	53	3764	62.7	33	2100	35.0	13	0787	13 1
72	6335	105.6	52	3665	61.1	32	2028	33.8	12	0725	12.1
71	6146	102.4	51	3569	59.5	31	1958	32.6	11	0664	11 1
70	5966	99.4	50	3475	57.9	30	1888	31.5	10	0603	10.1
69	5795	96.6	49	3382	56.4	29	1819	30.3	9	0542	9.0
68	5631	93.8	48	3292	54.9	28	1751	29.2	8	0482	8.0
67	5474	91.2	47	3203	53.4	27	1684	28.1	7	0421	7.0
66	5324	88.7	46	3116	51.9	26	1616	26.9	6	0361	6.0
65	5179	86.3	45	3030	50.5	25	1550	25.8	5	0300	5 0
64	5039	84.0	44	2946	49.1	24	1484	24.7	4	0240	4 0
63	4905	81.7	43	2863	47.7	23	1419	23.6	3	0180	3.0
62	4775	79.6	42	2782	46.4	22	1354	22.6	2	0120	2.0
61	4649	77.5	41	2702	45.0	21	1289	21.5	1	0060	1.0
60	4527	75.5	40	2623	43.7	20	1225	20.4	0	0000	0.0

TABLE II.

Remainders of Meridional Degrees subtracted from those of 23 Degrees Latitude.

Degrees Lat.	Mer. Degrees.	Degrees Lat.	Mer. Degrees.	Degrees Lat.	Mer. Degrees.	Degrees Lat.	Mer. Degrees.
60	51.9	50	34.3	41	21.4	31	9.0
59	49.9	49	32.8	40	20.1	30	7.9
58	48.0	48	31.2	39	18.8	29	6.7
57	46.1	47	29.8	38	17.5	28	5.6
56	44.3	46	28.3	37	16.3	27	4·5
55	42.5	45	26.9	36	15·0	26	3.3
54	40.8	44	25.5	35	13.8	25	2.2
53	39.1	43	24.1	34	12,6	24	1.1
52	37.5	42	22.8	33	11.4	23	0.0
51	35.9			32	10.2		

Manner of constructing it.

By the help of this table a Mercator chart may be delineated, as follows: 1. Draw a horizontal line to represent a portion of the parallel of latitude, where the chart is to begin; and divide this line into equal parts, to express the proposed number of degrees of longitude, ex. gr. 80. 2. From each extremity of this line draw a perpendicular, on which mark the corresponding meridional parts as they are reduced to degrees of longitude in the foregoing table. Thus, if the chart were to extend from the equator to 60 degrees of latitude, for 60 take 75.5, for 59 take 73.5, &c.; and these divisions, taken from the parallel of latitude and transferred to the perpendiculars, will give the divisions for the degrees of latitude in their true proportion. If the chart does not begin at the equator, but, for instance, at 23 degrees of latitude, and is to extend to 50 or 60, the meridional degrees of the lowest latitude, viz. 23° are to be subtracted from those of all the latitudes proposed to be introduced. This operation is exemplified in Table II.

3. The remaining meridional degrees, taken from the same scale used for the degrees of longitude, are to be applied to the perpendiculars; so that the meridian extent of a chart that reckons from 23° to 60° of latitude, will be 51.9, such divisions as the horizontal parallel contains 80.

4. Lines drawn through the several corresponding divisions of latitude will represent the parallels of latitude; and lines through the divisions of longitude will express the parallels of longitude, or meridians.

Though a Mercator chart does not exhibit the shape and extent of countries in the same proportion as upon the globe, yet, as the bearings and distances of places from one another are truly represented, it is more convenient for navigation than any other sort of maps whatever, because the rhombs are reduced to straight lines.

Other methods of constructing maps.

101. When the hemispheres are to be represented, the meridional projection of M. de la Hire is easier and more accurate than the stereographic projection commonly used. The distance of the eye from the plane

plane of the meridian, on which the projection is made, is greater than that in the stereographic projection by the sine of 45 degrees. This projection comes nearest of all to the nature of the globe, because the parallels, as well as meridians, are almost equidistant.

When a small part of the earth's surface, near the equator, is to be delineated, the meridians and parallels may be straight lines.

A map of a particular country, at some distance from the equator, may be constructed,—by projecting a large hemisphere, and taking so much of it as the map is designed to contain: or, by making the parallels equidistant straight lines, and the meridians straight lines, a little converging to the nearest pole: or, by describing the parallels portions of equidistant circles, and the meridians straight lines tending to the common centre of the parallels.

Bonne's method.

In the construction of maps of considerable extent, the method adopted by M. Bonne is as follows: The meridians are placed at equal distances, and the parallels are represented by concentric circles, whose common centre is the point where the mean tangent meets the extended axis of the earth; so that maps constructed in this manner are portions of the surface of a cone formed round a sphere, which touches the middle parallel of latitude. Thus, the parallel of 50 degrees is represented by a circle, whose radius is the co-tangent of 50°; and so of the rest, all of which are described at equal distances. In Murdoch's Projection the cone falls within the sphere, and coincides with it in two circles. But, according to M. Bonne, the cone is supposed to touch the outside of the sphere, near the middle parallel, where the map is an exact representation of a spherical surface; but it is less accurate towards the upper and lower extremities.

A proper atlas still a desideratum.

102. Having enumerated the principles and rules commonly observed in the construction of maps, it may be proper to add, that few have been hitherto delineated with precision, not so much on account of any

defect in the manner of representation, as for want of proper materials. The important observations and discoveries recently made will, it is hoped, incite some geographer of eminence to construct an atlas more accurate than any that has yet appeared.

The improvement of M. Buache.

103. In the year 1761, M. Buache, a learned and ingenious geographer, presented to the Royal Academy at Paris, a number of maps constructed on a new plan, with an account of which I shall conclude the History of Geography. Instead of the boundaries fixed by the mutual consent of nations, he has adopted those of nature, viz. chains of mountains, rivers, seas, &c.

To enable the reader to form a just conception of this mode of division, it may be observed, that, in several parts of the globe, plateaus, or vast groups of mountains, are situated, where ridges unite, or whence they radiate in various directions, sometimes terminating in plains, sometimes on the sea-coast, and at other times running into the sea, and appearing in different islands.

Two small assemblages are found in Europe, the most considerable of which is that in Russia, at the sources of the Wolga and the Don. Several chains there originate; one of which, in a south-west course, traverses Poland, the confines of Hungary, the lower provinces of Germany, France, Spain, and terminates at the Strait of Gibraltar. This chain is protracted northward through Russia to the ocean, near the mouth of the Oby. Another passes southward, between the Euxine and Caspian Seas, into Armenia; thence through Syria, Palestine, Arabia Petræa, along the east coast of the Red Sea, and terminates at Cape Razatgat, near the Straits of Babelmandel. From the first of those chains, various branches emanate on either hand, and divide Europe into basons, or countries. One branch stretches westward from the Pyrenees, along the northern coast of Spain, to Cape Finisterre. Another extends from the group in Switzerland, along the confines of France, and crosses the

the British Channel near Calais. A third, from the vicinity of Vienna, passes northward through Denmark, composes the mountains of Norway, and ends at the North Cape. A fourth branch, from the Chain to the North of the Plateau, reaches to the extremity of the Norwegian mountains. The most considerable branches to the eastward are, as follows.—The first proceeds from Switzerland longitudinally through Italy, crosses the Strait of Sicily, and reaches to the western coast of that island. The second from Switzerland passes south east into Servia: thence one part of it traverses Greece, and the other proceeds along the border of Macedonia, and through Romania to Constantinople. Crossing the Straits, it runs through the middle of Asia Minor into Armenia, where it unites to a chain already mentioned. In those chains and ridges the principal rivers in Europe originate.

2. In Asia, a great plateau is situated to the north of Thibet in Usbeck Tartary, which is supposed to be the most elevated region of the globe. One chain originates in this group, forms the Thibet Mountains, and proceeds southward in two grand divisions; the one from Cachemire, stretching along the Malabar coast to Cape Comorin; the other extending south-east to the confines of China, and thence in several vast ridges to Cape Romania. 2. A chain terminates in the Northern Ocean, opposite to Nova Zembla; and a branch of this chain, from the vicinity of Kashgar, runs through the country of the Kalmucks to the Eastern Ocean, or Sea of Kamtschatka. 3. A third chain separates China from Tartary, and reaches to Yeso. 4. Another passes westward, along the confines of Persia, to Armenia Minor.

3. From the plateau in the middle of Africa five chains proceed. 1. The first passes northward along the coast of the Red Sea to the isthmus of Suez. 2. The second runs north-west by Tripoli, and terminates at Mount Atlas. 3. Another stretches westward to Cape Tagrin, the termination of Sierra Leona, and eastward to the Straits of Babelmandel.

4.

4. The fourth extends south-west through the middle of Africa to the Cape of Good Hope. 5. The last reaches to Madagascar.

4. There is an extensive plateau in Peru, whence a chain runs along the western coast, to the extremity of Terra del Fuega; and, on the opposite side, it is continued northward to New Mexico, where it is divided; the one part, sending off a branch westward to Kamtschatka, proceeds, in a northern course, through unknown regions, to the ocean; and the other north-east through Louisiana and Canada to Hudson's Straits. A branch stretches north-east to Rio-Grande in Brazil. Another north of the Equator extends to the Cape opposite to the Islands of Tobago and St Vincent. In North America, many branches intersect the country between the two great divisions, and terminate on the eastern coast.

Such, according to M. Buache, are the directions of the great ridges of mountains, which, with some interruption, and with various flexions and curvatures, traverse the different parts of the globe; and such are the limits which nature has assigned to the various regions it contains.

This mode of division aids our conceptions concerning the structure of the earth, the origin and sources of rivers, earthquakes, &c. and greatly illustrates the physical part of geography.

In tracing the chains and ridges of mountains, M. Buache has proceeded on the supposition that all the great ranges lie from east to west,—that they are continued from one continent to another under the ocean,—and that their most elevated parts lie under the equatorial line; whereas Kircher and M. Buffon have shown that they lie from south to north, and that the branches extend thence on either hand.

Of Pallas. The system of M. Pallas is, as follows. He denies that the most elevated ridges are near the line; on the contrary, he observes, that extensive plains accompany the line through almost the whole of its extent.

In

In Africa lie the Sandy Deserts of Nigritia on the one side, and the barren plains of Caffraria, Zanguebar, &c. on the other. Though Chimboraço and Pichincha, in America, are under the line, yet this chain lies from north to south; and there is a vast plain, under the line, between the rivers Oroonoko and Amazon. The other parts to the east and west of America, are covered by the sea. The most elevated tracts on the globe, it would appear, are situated without the tropics; for most of the great rivers fall into the sea towards the poles, or under the line; but there are many exceptions.

The interior part of Africa is little known. Europe and Asia appear to be divided by an elevated belt, which extends from the west coast of France to the eastern parts of Tartary, in 50° N. latitude nearly. In the new continent, that chain, where the Mississippi originates, is probably the highest in North America. In the old continent, the belt already mentioned may be reckoned 10 degrees in breadth, viz. from 45° to 55° N. latitude; and thence great rivers flow northward. The highest mountains are in this belt, viz. the Alps of Switzerland and Savoy, and the lofty Carpathian ridge which extends eastward and is succeeded by another that traverses the Asiatic continent. The Oural Mountains, from 53° N. latitude, and 70° E. longitude, extend S. E. through the country of the Eleuths, and afterwards unite to the Altaic chain, which covers the sources of the Irtish, Oby, Jenisei, &c. forms the elevated plain of Cobi or Chamo, proceeds to lake Baikal, and thence to the sea of Kamtschatka. Traversing the sea, it forms the Archipelago of Beering, enters North America about the straits of Anian, and is lost in Canada.

From this vast belt many branches emanate towards the equator and the pole. 1. The European Alps produce three principal ridges. The first proceeds through Dauphiné, Lyonnois, Cevennes, and Languedoc, and joining the Pyrenees enters Spain, and divides into two smaller branches,

branches, one of which passes through Navarre, Biscay, Aragon, Castile, and extends to Portugal; the other, traversing Andalusia and Granada, reaches to Africa, where it assumes the name of Mount Atlas. 2. The second principal chain passes through Savoy, Piedmont, Italy, and terminates in Sicily. 3. The third ridge departs from Hungary, and traverses Turkey. The northern branches are not so high, but very distinct; and some of them are of considerable extent. In the Asiatic Alps many branches originate, which are traced in the following work.

In the construction of maps, the boundaries fixed by nature have been little regarded; though they, together with the courses of rivers and trendings of coasts, ought to constitute their essential parts.

For reasons sufficiently obvious, M. Buache has changed the position of the hemispheres. America is commonly represented as situate to the west of Europe, because it was discovered by Europeans who sailed westward thither. But, as the north-west coast of America is separated from Asia by a narrow strait only, it appears to be more congruous to the natural situation of the two continents, to represent the former as lying to the eastward of the latter (Mem. Acad. Fr. A. D. 1755.). On hemispheres thus placed, degrees of longitude may be reckoned eastward in continuation from Greenwich; and the Pacific Ocean will assume the appearance of a vast gulf, which modern navigators have found to be its proper form.

PHYSICAL

PHYSICAL GEOGRAPHY.

A REVIEW OF DIFFERENT THEORIES OF THE EARTH.

THE slightest survey of the earth's surface renders it obvious that there are many appearances which must have been produced by great operations. The regular distribution of the strata, and, in many cases, the extent of their parallelism, demonstrate the effects of steady and general laws. On the other hand, the irregularities and contortions which they occasionally exhibit, and the confused manner in which they lie upon one another, are proofs that important changes have been effected by powerful agents. When we find the remains of organized bodies in the interior parts of the hardest rocks, and the productions of the bottom of the ocean on the tops of the highest mountains, we are forced to acknowledge that great revolutions have, at some period, taken place in the physical constitution of the globe.

To explain those appearances, and unfold that vast chain of events, which connect the present with the original structure of the earth, various theories have been invented, applauded, and confuted. To exhibit a circumstantial detail of these is foreign from the plan of this work. It may be sufficient to lay before the reader an outline of such as are most celebrated.

Burnet. Thomas Burnet is reputed the first eminent writer, who dared to give a theory of the formation of the earth. His "*Telluris Theoria Sacra*," published A. D. 1680, met with a favourable reception, on account of the novelty of the subject, and the singularity of his opinions; and, in this work, he had the dexterity to conceal feeble reasoning and false philosophy, under the splendour of his conceptions and elegance of his style. He supposes that the earth was at first a fluid mass, or chaos, of various substances blended together; the heaviest of which sunk to the centre of the globe, and the rest were deposited in strata according to their specific gravity. The waters covered that solid body, and the air encompassed the whole. Between the water and the air an unctuous substance interposed, which, mixing with earthy particles and impurities of the air, became a smooth and solid shell, replenished with plants and animals; but without difference of seasons, its equator being placed in the plane of the ecliptic. By the exhalation of moisture the earth's surface, in process of time, was dried and parched; large fissures, occasioned by the contraction of the soil, penetrated to the deep abyss, the earth itself rent in pieces, the waters gushed out, an universal deluge ensued. The whole of mankind, except one family, were destroyed. The waters, having for some time prevailed, gradually retired into cavities of the earth, and its broken irregular surface appeared in continents and islands, while a large proportion of it remained buried under the sea, which is a part of the ancient abyss that found no place to return. This theory, which Burnet published as his own production, is said to have been the

the invention of Francesco Patrizio, a professor at Ferrara and Rome, about a century before. In one of that philosopher's dialogues, intituled "Il Lamberto," he communicated his speculations, which Burnet copied almost verbatim. This fanciful system conveys no useful information; and its author appears to have been unacquainted with the chief phenomena of geology, and a man of no observation.

While Burnet attributed present appearances on the earth to the agency of water, Leibnitz, a celebrated philosopher and metaphysician, published a sketch of an opposite system, under the title of *Protogæa*. In this work he maintains, that the earth originated from fire, and has undergone innumerable changes and revolutions; that it was, at first, a fixed and luminous star, which burned in the upper regions for many ages, but was extinguished from a deficiency of combustible matter, and became an opaque body. The fire, by liquifying the surface, produced a vitrified crust; so that the basis of all terrestrial bodies is glass, of which sand and gravel are fragments. The other species of earth resulted from a mixture of sand with water and fixed salts. When the crust of the earth had cooled, the moist particles, which had been raised in the form of vapour, fell down and formed the ocean. The water thus deposited, at first covered the whole surface, and overtopped the highest mountains; but afterwards it subsided. This sketch, however ingenious it may seem, refers entirely to remote ages, does not apply to the present state of things, and is unsupported by facts. Leibnitz.

Xanthus, the Lydian, long ago supposed that the bed of the sea, which is very unequal, has been from time to time raised and depressed by earthquakes and the force of subterraneous fire, and that to this cause the several remarkable changes, which have happened on the earth's surface, are to be ascribed; in particular, the immense quantities of shells and fossils found on the tops even of the highest mountains. This opinion, long overlooked or forgotten among naturalists, was revived by *Ray*, who Ray.

published three physico-theological discourses concerning the chaos, the deluge, and dissolution of the world, A. D. 1692. He conceived that the waters, by which the earth was originally overflown, gradually subsided; that dry land first appeared in the territories adjacent to that where man was placed at the creation; that it extended itself by degrees, but that a considerable time elapsed before the waters had retired to their proper beds. During this interval, the shell-fish, having multiplied, were universally distributed by the agitation of the waters: and when the bottom of the sea was raised by the earthquakes which accompanied the deluge, and formed the mountains, beds of marine productions were thrown up along with it.

Woodward. The theory of *Woodward* is no less weak, whimsical, and unfounded than any of the foregoing. This eminent naturalist, who was professor of physic at Cambridge, in the beginning of the eighteenth century, supposes that, when the laws of gravity and cohesion were suspended at the time of the deluge, all the substances of which the earth is composed were dissolved; while all animal and vegetable bodies, bones, teeth, shell trees, shrubs, and herbs, whose fibres are interwoven and twisted, remained entire. Those miscellaneous materials, blended in one fluid mass, being afterwards determined to subsidence merely by their specific gravities, all of them which had the same gravity subsided at the same time: accordingly, in this order all terrene substances are disposed in horizontal beds. But, in contradiction to this hypothesis, we frequently find layers of stone, the lightest soils, and the softest earth under the hardest bodies. The principles of this author are erroneous, and his conclusions false.

Whiston. Whiston, contemporary to Woodward, was an English divine of great piety and uncommon learning. In the year 1708, he published a *new theory*, in which he undertook to prove the Mosaic doctrine of the earth's formation perfectly agreeable to reason and philosophy. He supposes the earth to have been originally a comet, whose alternations of heat and cold

cold produced, to a certain depth in its body, a chaos surrounding the solid contents of a burning globe, upwards of 2000 leagues in diameter. That chaos he resembles to a dense, though fluid, atmosphere, composed of heterogeneous materials mingled, agitated, and impelled against one another: and this he conjectures to have been the state of the comet at the eve of the creation, which he refers to the epoch ascertained in the sacred writings. As the eccentricity of the comet's orbit decreased, the circumambient fluid, subsiding in proportion to the specific gravity of its component parts, formed the earth, the water, and the air. The central mass remained unchanged, retaining a part of its primeval heat, which he calculates may continue about 6000 years. A terrene substance, consisting of the heavier parts of the chaotic atmosphere mixed with aqueous particles, encompassed the globe of fire, and was inclosed by a body of water, round which was formed the crust of earth destined to be the habitation of mankind. The irregularities on this crust, composed of the heaviest parts of the earth, sunk deeply into the subjacent fluid, forming plains and vallies; while those of less weight remained elevated, and are called mountains. Such was the frame of nature before the universal deluge. At that grand epoch, the fluid exhaled from the body of a comet, returning from its perihelion, involved our earth; while the internal waters were raised by the force of fire. A deluge ensued which reached the summits of the loftiest mountains. The superfluous waters again retired into the internal abyss, which had been enlarged by expansion, and the earth was left uncovered, but in some respects changed, as its figure from being a sphere was converted into a spheroid. This system was highly applauded by one class of learned men, and violently opposed by another. It is a chaos of confusion, a medley of strange notions adorned with much science and ingenuity, an assemblage of vague conjectures exceeding the bounds of human credibility.

M.

Burguet. M. Bourguet, A. D. 1729, published a specimen of a theory which he had projected. He conjectures that the earth was originally in a fluid state, and very different from its present condition; that its condensation was gradually diminished by its annual and diurnal revolutions, so that, in process of time, its structure was destroyed; that sea shells insinuated themselves into the disunited substances, and the earth was moulded into its present form; that by the operation of heat it began to decay, and at some future period it will be blown up with a dreadful explosion. These are the outlines of a system, the proofs and illustrations of which never appeared. The author had collected many facts, and made many observations, but he wanted the capacity of enlarged views, or of comprehending the chain of causes and effects.

Moro. The hypothesis of Ray was partially adopted by Lazaro Moro, an Italian geologist, in a work published at Venice A. D. 1740; which was chiefly designed to account for the remains of marine animals found in mountains at a distance from the sea. With this view, he conjectured that the earth in general, and its mountains in particular, were elevated from the bottom of the sea by the force of subterranean fires, which began to burn soon after the creation. At first a portion of land was raised up in which no shells are found, as the ocean had not been then peopled with fish. Afterwards, large quantities of shells and other marine substances were thrown up with the soil, and disposed in strata according to their specific gravity. But how the strata were consolidated, and the shells were found in the strata mineralised, we are not told; so that this system, as well as that of Ray, is imperfect.

Hooke. Dr Hooke supposed the strata, of which the shell or surface of the earth is composed, to have been originally formed at the bottom of the sea, by the constant agitation of the waters and the continued production of plants and shells; after which, subterranean explosions and earthquakes raised the ground under the ocean, so as to form continents and islands.

M.

M. Raspe, in his "Specimen Historiæ Naturalis Globi Terraquei," published at Leipzig A. D. 1763, seems disposed to adopt the system and hypothesis of Moro. He also observes, that the water by its weight was forced into the cavities made by previous eruptions; that the violence of subterraneous explosions is so great as to remove mountains from one place to another; and that the heat of the internal fires is so violent as to melt, calcine, or convert the adjacent substances into stone. Raspe.

The theory of the learned and eloquent Buffon, is adorned with all the charms of novelty, and all the beauties of language. It is comprehensive in its plan, ingenious in its construction, and powerfully supported by a multitude of facts, and much plausible reasoning. The earth, as well as the other planets, he conjectures to have been a portion of the sun's body, separated from that luminary by the oblique stroke of a comet. The mass of igneous particles, thus detached, would have continued to recede for ever, if it had not been restrained by the power of attraction, and, by the combination of the centrifugal and centripetal forces, compelled to revolve in circles nearly. Composed of these firey particles, the earth, being removed at a considerable distance from the body of the sun, began gradually to cool. Besides a circular, or elliptical, movement round the centre of gravity of the system, a rotatory motion upon its own axis was impressed by the oblique impulse of the comet. This motion being greatest at the equator, where it counteracts most powerfully the force of gravity, gave the earth an oblate figure. Its internal substance is probably an uniform mass of matter, vitrified in its primeval infusion: but its surface is composed of those vapours which originally floated round it, but which, cooling by degrees, subsided, forming according to their different densities, the earth, the water, and the air. Buffon.

The earth he supposes to have been at first under water, as shells in great quantities are found in the highest mountains, and some even in the bodies of the hardest rocks; all of which must have been deposited by

slow

slow and successive degrees, not according to their specific gravities.—That the sea covered the whole earth is also evident from the appearance of its strata which lie regularly one above the other. Farther, mountains and vallies must have been formed by the force of the waves and currents; and hence it is found, that where the power of the sea is greatest, as at the equator, the inequalities on the earth's surface are most considerable. The water, having completely performed its office, was precipitated by its own weight into vast caverns beneath, and part of the surface, which it formerly occupied, was left entirely dry.

Such are the outlines of the theory of the earth brought forward by this ingenious philosopher. To expose its futility, it will be sufficient to remark, that nothing can be more absurd than the supposition of the existence of such immense cavities as could contain a body of water equal in height to the most elevated mountains; nor is it conceivable, in what manner the waves of the sea, after having raised up a quantity of sand, earth, and shells, should deposite them again in parallel and horizontal beds; nor how torrents should have existed and acted at the bottom of the ocean, so as to produce these effects, and even to penetrate the strata of mountains, and divide them into hills and vallies. Of this theory it is pertinently observed, that "the author introduces the action of water "to waste and destroy mineral bodies, and afterwards to dispose "them anew, and arrange them into strata; but that he makes no "provision for the consolidation of those strata, nor any for their "angular elevation: he has no means of explaining the unstratified "rocks, nor any, but one extremely imperfect, for explaining the irre-"gularities of the earth's surface."

Pallas. Professor Pallas, in a dissertation on the Origin and Structure of Mountains, published A. D. 1779, refutes the opinion that they were formed in the ocean. The great chain of *Primitive Mountains*, that binds together the various parts of the globe, he attempts to prove, by adducing undoubted facts, neither has been, nor could be, the production of the waters

waters. This chain is granite, with a basis of quartz mixed with spars, mica, and small portions of basalt, scattered without order and in irregular fragments. This rocky substance and the sand produced by its decomposition form the basis of all the continents. Granite is never found in strata, or beds, but in blocks, or masses, which exhibit no vestige of any organic impression. The secondary and tertiary mountains he supposes to be of a more recent origin; the former having been produced by the decomposition of granite, and the latter having arisen from the wrecks of the sea, elevated and transported by volcanic eruptions and consequent inundations. This hypothesis, open as it is to objections, derives an air of plausibility from natural history, and an attentive observation of the present state of the globe.

Hutton.

But the boldest and most splendid theory of the earth, which has yet been proposed, is that of Dr Hutton. This philosopher, combining a vigorous imagination with an extensive knowledge of science, has far surpassed all his predecessors in the grandeur of his conceptions, and the generality of his views. Not satisfied with accounting for the appearance we now behold, he attempts to discover in the present structure of the globe the wrecks of former worlds, and to prove that the earth is exposed to alternate renovation and decay. For this purpose, he makes use of the same agents as Buffon and several others have employed; but the order and manner, in which he conceives them to operate, differ essentially from the hypotheses of former writers on this subject. He assumes a principle which cannot be disputed, viz. that all terrestrial bodies are subject to constant waste and decay; that the hardest rocks, as well as the more perishing materials of the globe, are gradually demolishing and crumbling into dust. This process goes on with more or less rapidity. Sometimes its steps are slow and imperceptible; at other times they are manifest, and forcibly draw our attention to the mutability of all earthly things; but in no case are they retrograde, or even

stationary. The disintegrated particles, by the incessant action of the weather, and their mutual attrition, become more and more comminuted, and are gradually conveyed into the ocean, by the rains, the torrents, and the rivers. The constant agitation of the waters, carries them along the shelving bottom to the unfathomable depths; and, assisted by gravitation, arranges them in distinct strata, or parallel layers, which vary in thickness with the nature and extent of the demolitions that preceded this new arrangement. Thus far the theory is attended with no great difficulty: but here observation ends, and hypothesis begins. The loose materials, after being arranged in the manner already mentioned, are supposed to be acted upon by an intense heat, existing in the central regions of the earth, a heat which is neither supported by atmospheric air, nor combustible bodies. By its action, the strata are consolidated, and, in some cases, so completely fused as to destroy all marks of stratification. Hence the explanation of stratified and unstratified rocks. The great compression produced by the weight of the superincumbent ocean prevents the escape of those volatile substances with which many mineral bodies abound. This circumstance, according to recent experiments, has a wonderful influence over the effects of heat, and enables the theory to explain many appearances, which would otherwise have been inconsistent with its leading principles. As the heat, in its expansive action, would be opposed by various degrees of resistance, some parts would be more easily raised up than others; we should therefore expect to find the strata deviating occasionally from the horizontal position, and elevated in every degree of inclination. This, accordingly, is agreeable to observation. Where the action of the heat is supposed to have been sudden and violent, they bear marks of disruption and disorder; and, in this manner, were formed shifts and fissures. The latter, being afterwards filled up with melted matter projected from below, became what are called veins, which consist sometimes of stony, and sometimes

times of metallic substances, but never contain any organic remains. Such is a brief sketch of the manner in which Dr Hutton conceives the globe to have been formed. But his theory does not stop here. The same process, or series of operations, is to be indefinitely repeated; and the earth is to exhibit an incessant round of decay and renovation. He further remarks, that the world which we inhabit, is composed of the materials, not of the earth which was the immediate predecessor of the present, but of the earth which, in ascending from the present, we consider as the third, and which had preceded the land that was above the surface of the sea, while our present land was yet beneath the water of the ocean: so that, here are three distinct successive periods of existence, and each of these, in our measurement of time, a thing of indefinite duration. The result of his inquiry is, that there has been a succession of worlds, in which we find no vestige of a beginning, and no prospect of an end. The principles of this bold and extensive theory have been clearly explained, and elegantly illustrated by Professor Playfair, who has also successfully combated the charge of impiety, which the opponents of Dr Hutton endeavoured to attach to his opinions.

Werner.

No less celebrated, though less splendid, is the Neptunian, or, as it is now more frequently called, the Wernerean theory, from Professor Werner of Freybourg, perhaps the most distinguished mineralogist of the present day, and one of the most zealous supporters of this theory. He professes to banish every thing hypothetical, and to draw from accurate observation such conclusions as seem to be unavoidable. He sets out, however, with conjecture, and states that the earth, to a considerable depth, has been once in a state of fluidity, produced not by fire, as the Huttonians suppose, but by aqueous solution. The outlines of the system, founded on this principle, are as follows:

1. The superficial parts of the earth, to a certain depth, must have been originally in a soft or liquid state, which may be inferred from its

present spheroidal shape, and from a variety of geological observations. 2. That, at the time of the creation, and many centuries after, the interior and more central parts contained immense empty caverns, and consequently consisted of materials sufficiently solid to resist the pressure of the enormous mass of superincumbent liquid substance. 3. The materials, of which the strata of the earth are composed, were at one period dissolved or suspended in water; and from this fluid they had successively consolidated in various combinations, partly by crystallization, and partly by mechanical deposition; granite, as the basis on which the greater number of strata rest, having been first formed, and the other primitive strata in due order, by precipitations chiefly chemical. 4. From the period of the formation of these strata, the water, which covered the surface, began to diminish in height, by retiring gradually into cavities in the internal parts of the earth; and, during this process, other precipitations were effected, and the intermediate strata, or strata of transition, were formed, of which siliceous schistus and transition are the principal. 5. When the water was still abating, the mechanical action of its mass, on the strata already formed, occasioned in them a partial disintegration; the materials from this source, together with the remaining part of the matter originally dissolved, by their precipitation and consolidation, formed the *secondary* strata, which are generally arranged in horizontal beds, and abundant in organic remains. 6. During the gradual consolidation of these strata, rents and cavities opened, into which the water, holding various substances in solution, retired; hence the formation of mineral veins. 7. Volcanic fires and alluvions have produced some inconsiderable and partial changes on the surface of the earth.

The two last mentioned theories have for sometime arrested the attention of the public, and divided the learned. Which of them is most plausible, I shall not presume to determine.

To

To narrate the appearances which nature exhibits to our view, and to give an idea of what is moveable and immoveable upon, and under the surface of the earth, is the province of *Physical Geography*. But, instead of entering into a minute detail on a subject so various and complicated, I shall submit to the reader the following imperfect sketch, leaving it to the chemist and geologist to finish the piece.

OF THE ATMOSPHERE.

The terrestrial globe is encompassed on all sides by a thin, elastic, invisible fluid, commonly called Air, but properly atmosphere, one of the most considerable and universal agents in nature. On the influence of this element the life of animals and the growth of vegetables depend. It likewise essentially contributes to the convenience and comfort of mankind, by affording those reflections and refractions of light which shed a lustre over surrounding objects, and by furnishing a fit repository for the vapours that descend in mists, dews, and showers, to refresh the earth, and for winds which form an intercourse of society and commerce with distant nations.

This fluid is composed of azote, vitabair or oxygen, and carbonic acid gas, united by chemical affinity, and sometimes differing a little in their proportions, at different times and in different places. Beside the ingredients already mentioned, other bodies have been found, or suspected to exist, in the atmosphere: hence some places have been accounted healthy, and others pernicious to the human constitution. It has indeed been remarked, that all kinds of sublunary bodies are copiously floating in it, and that, being continually exposed to the influence of the sun, it undergoes innumerable operations.

The

The atmosphere is a colourless fluid. The blue tint and bright appearance of the sky are occasioned by vapours mixed with the air. The higher that an observer is elevated above the earth's surface, the deeper shade will the colour of the sky assume: and, at a certain height, the sky will appear black, that is, will reflect no colour at all.

Air, on account of its elasticity, may be made to occupy more or less bulk, according to the force with which it is compressed; this constitutes what is called its density and rarity. Whence it follows, that the air is dense at the surface of the earth, and decreases in proportion to the weight of the superincumbent column. But, at the equator, where the centrifugal force, the distance from the earth's centre, and the heat, are all at their maximum, as a column of air is longer than one towards the poles, so its density in the torrid zone will not decrease so fast as in the temperate and frigid zones. Cold increases the density, and diminishes the height of the column of air. Therefore in mountainous countries, where the cold is more intense than in those less elevated, in the same latitude, the density of the air will be increased, and the height of the atmospheric columns will be lower, or shorter.

A current of air is continually ascending at the equator, and part of it reaches the highest region of the atmosphere. Thence in its passage to the poles it descends as down an inclined plain to the frigid zone, where it accumulates. When these accumulations have some time prevailed, the atmosphere's density becomes too considerable to be balanced by the surrounding medium, and rushes towards the adjacent countries, producing cold winds which will raise the barometer. Accordingly it is found, that the mercury is raised in Europe by winds proceeding from the north-west parts of Asia; and, for the same reason, the north-west wind from the mountains in Thibet and Tartary raises the mercury at Calcutta. Further, considerable qnantities of air, it is probable, are occasionally absorbed by other substances in the polar regions:

gions: when this happens, the atmosphere from the south rushes in to fill up the void; hence south-west winds frequently blow, and the barometer falls.

The weight and pressure of the air depend on its density and height. Where the density is greatest, the height is least, and *vice verse*. A column of air, reaching from the level of the sea to the top of the atmosphere, is of equal weight with a column of water $34\frac{1}{2}$ feet nearly, or a column of mercury 30 inches high; so that the pressure upon every square inch of the earth's surface is equal to 15 pounds, the weight of 30 cubical inches of quicksilver. As the earth's surface, in round numbers, contains 200,000,000 square miles, and every square mile 27,878,400 square feet, there must be 5,575,680,000,000,000 square feet on the earth's surface; which, multiplied by $2156\frac{1}{4}$ pounds, will give 12,022,560,000,000,000,000 pounds for the pressure or weight of the whole atmosphere. At any given station, however, the weight of the atmosphere is continually varying according to the different degrees of heat and cold, and the concurrence of other causes. Its weight, at a medium, is to that of water as 1 to 800, or 816. An alteration in its weight is indicated by the rise or fall of mercury in a barometer.

Concerning the effect produced on a barometer, by the change of weather, Dr Halley makes the following observations:

1. In calm weather, a depression of the mercury generally indicates rain; because the vapours, being specifically heavier than the air, descend towards the earth, and in their fall incorporate with other aqueous particles, and form drops of rain. When the winds blow in opposite directions from the station of the barometer, the weight of the incumbent column of air is diminished, and the mercury falls. This accounts for the uncommon depression of the mercury, when a heavy fall of rain does not succeed.

2. In

2. In serene and settled weather, the mercury is generally high. And when two contrary winds blow towards the place of observation, the incumbent column of air is thereby increased both in height and weight, so that the vapours, which float in it, do not descend into rain.

3. In violent gusts of wind not accompanied by rain, the mercury sinks lowest of all. For the air is attenuated by the swiftness of the current, and the stagnant air on all hands cannot come in so fast as to supply the evacuation; and the vapours being dissipated by that agitation, do not condense into rain, which is the natural effect of the air's rarefaction.

4. The greatest elevations of the mercury, *caeteris paribus*, occur in consequence of easterly and north-easterly winds. For (besides the reason already assigned) on this side of 35° N. latitude, the west and south-west winds almost always blow. When the north and north-east winds prevail here, as soon as they reach the ocean they are checked by those contrary gales; so that the air must be condensed upon this island. But, where the winds are under different circumstances, the same effect will not be produced by an east or north-east wind.

5. In calm frosty weather the mercury generally stands high. For, as it seldom freezes but when the wind comes from the north and north-east parts of Europe, which are subject to almost continual frost during winter, the lower parts of the atmosphere, much condensed, are brought hither by those winds, and are accumulated by the opposition of the westerly wind mentioned in the foregoing article. The mercury, therefore, must rise in proportion to the effect produced by that opposition, and to the condensation of the atmosphere by cold.

6. After great storms of wind, when the mercury has been low, it generally rises again very fast; because, the air being much rarified by evacuations, the neighbouring air rushes in to restore the equilibrium.

7. The

7. The alterations of the barometer are greater in northerly than in southerly climes, because the former are subject to more violent storms of wind than the latter, and on that account the mercury must sometimes sink lower in the extreme. On the other hand, the northerly winds being loaded with condensed air from the polar regions, and opposed by southerly winds from the Atlantic, the mercury must sometimes stand higher in this extreme.

8. There is little or no variation of the height of the mercury within or near the tropics, for there an easy gale always blows upon the same point nearly; so that no contrary currents exhaust, or accumulate, the atmosphere. In hurricanes, indeed, the barometer is very low, but it soon recovers its settled state.

Rules for judging of the Weather by the Barometer.

1. The rising of the mercury presages in general fair weather, and its falling rain, snow, or storms.

2. In hot weather, the fall of the mercury indicates thunder.

3. In winter, the rising of the mercury generally indicates frost; and in frosty weather a fall portends thaw: but if the mercury rise during a continued frost, a fall of snow may be expected.

4. When foul weather happens soon after a fall of the mercury, it will be of short duration; and fair weather, immediately succeeding a rise, will not long continue.

5. In fair weather, when the mercury falls considerably before any change takes place, much rain or high winds will follow.

6. In foul weather, when the mercury continues to rise several days before it is over, a tract of fair weather will succeed.

7. The unsettled state of the mercury, or sudden risings and depressions, denotes changeable weather.

8. If the mercury from *much rain* on the index rise to *changeable*, it will be fair weather, though not of such long continuance as if the mercury had risen higher. And if the mercury from *fair* fall to *changeable*, it denotes foul weather, though not so much as if it had sunk lower.

During a voyage of discovery along the coasts of New Holland, A.D. 1801—1803, Captain Flinders found, almost universally, a connection between the rise or fall of the barometer, and the direction of the wind in respect of sea and land. He observed, that previous to the wind shifting, the barometer was affected. When the wind blowing from the land was about to veer round, and to come from the sea, the mercury rose, and the approach of a contrary change of wind sunk it. These observations he verified on the south, east, and north coasts of that country. The rise of the mercury was an indication of a sea wind, and its fall, a wind from the shore. If this should be found uniformly the case in other regions, that ingenious navigator has furnished a kind of test, whereby the neighbourhood of land may be obtained in unknown seas, and has discovered a new mean of correcting some of the foregoing criteria of changes in the weather.

Agreeably to the known proportion between equal bulks of air and mercury, 30 inches of the latter in a barometer would require a column of air, of uniform density, 28410 feet high, or a little more than $5\frac{1}{2}$ English miles. But in the upper regions of the atmosphere, the air is much rarer than near the surface of the earth; and consequently, the height of the atmosphere must be greater than that above mentioned. In general, if any number of distances from the earth's surface be taken in an *arithmetrical* progression, the densities of the air at these distances will be in a *geometrical* progression, and, consequently, their distances proportional to the logarithms of the corresponding densities. Thus, any height taken

taken from the earth's surface, is in proportion to the difference of the logarithms of the two densities, as measured by the height of the mercury in the two barometers, making a correction for the temperature at the two stations. In this way heights of mountains may be measured barometrically.

The construction of a barometer is well known; and the measurement of heights by means of this instrument has been recently carried to a great degree of exactness. It is performed as follows: Let two barometers be placed, the one on the summit of a mountain, and the other in a plain, or valley, whence the height is to be computed. Note the altitude of the mercury in the tube of each barometer, by means of an index accurately divided; and note likewise the height of an attached and of a detached thermometer at either station, in the shade. *Rule*—Take the difference of the common logarithms of the observed heights of the barometers, considering the first four figures, exclusive of the index, as whole numbers, and the other figures to the right as decimals: the remainder is nearly the height required in English fathoms. Subtract from, or add to, that height 0,454, the correction of mercurial temperature for 1° multiplied by the difference of the attached thermometers, accordingly, as the height of either is greatest at the lower or upper station; and you will have the height nearly corrected. Multiply this height by the difference between the mean of the two detached thermometers and 2°, and the product by the decimal fraction 0,0024 the expansion of the air for 1°. Add, or subtract, this product from the height, as the mean of the detached thermometer was higher or lower than 32°, and you will have the true height in English fathoms.

EXAMPLE.

		Att. Ther.	Differ.	Det. Ther.	Mean.
Lower bar.	30 20	70	16	66	54
Upper	24 30	54		42	

30 20	Log. 1.4800069		21002.322
24 30	1.3838154	Mult. by	.0024
	0.0961.915 fathoms.		84009288
Subtr.	7.264=0.454×16		42004644
	954.651 height nearly.		50.405.5728
Mult. by	22=54—32		954.651
	1909302		Height 1005.056 fathoms.
	1909302		6
	21002.322		6030.336 feet.

The thermometer now in use is that constructed by Farenheit; the freezing point of which is 32, temperate heat 55, summer heat 76, blood heat 96, boiling water 212.

This instrument may be adjusted to Reaumur's thermometer as follows.—In Farenheit's thermometer freezing point is 32, and boiling water 212: consequently between these points are 180°. In that of Reaumur freezing point is 0°, and boiling water 80°; so that 180° in the former are equal to 80° in the latter, and $2\frac{1}{4}°$ equal to 1°. To adjust Fahrenheit's scale to that of Reaumur: If the number of degrees on the former exceeds 32°, then subtract 32, multiply the remainder by 4, and divide the product by 9. Ex. 149° of Fahrenheit—32=117×4=468 ÷9=52° the corresponding degrees on Reaumur's scale. If the degrees given by Fahrenheit's thermometer are below freezing point, they must be subtracted from 32. Thus 12°=$8\frac{8}{9}$.

Delisle begins his scale at boiling water, and measures downwards 150° to freezing point. Consequently 150° on that scale are equal to 80° of Reaumur,

Reaumur, and to 180° of Fahrenheit. Delisle's divisions may be easily adjusted to those of Reaumur. If the proposed degree in the former be below boiling water, it must be subtracted from 150. Multiply the remainder by 80, and divide the product by 150: the quotient is the corresponding degree in Reaumur's scale. Ex. 120 of Delisle subtracted from 150, there remains 30. $30\times80=2400\div150=16$ Reaumur's degree above freezing point.

Celsius of Upsal divided the interval between freezing and boiling water into 100 parts, or degrees. Consequently on his scale $100=80$ of Reaumur $=180$ of Fahrenheit; and one degree of Celsius $=\frac{4}{5}°$ of Reaumur $=1\frac{8}{10}$ of Fahrenheit.

The quantity of rain that falls at any given place, in a month or a year, may be ascertained with sufficient accuracy by a *Rain-gage*. The construction of this instrument is simple. A cylinder of plate iron is formed, about 3 feet high, and 6 inches diameter, painted on the outside to prevent its being corroded by moisture. At top, there is a funnel, with a small hole in the centre, through which a rod passes, with a float attached to its lower end. The upper part of the rod is divided into inches and tenths of an inch, to measure the water that falls into the cylinder. When the rain-gage is placed in an open area, as much water must be put into the cylinder as will raise the float, so that the top of the rod may coincide with a line drawn across the mouth of the funnel. The evaporation in the space of a month is inconsiderable. Rain-gage.

A *Wind-gage* is an instrument for measuring the force, or velocity of the wind. An ingenious portable anemometer was constructed by Dr Lind of Windsor, and is described in the Phil. Trans. for the year 1775. It consists of a glass tube $\frac{4}{10}$ inch diameter, bended so as to form two legs parallel to each other, and 8 or 9 inches in length. On the upper end of one of the tubes, is fitted a thin metal tube turned outwards, with its mouth open to receive the wind blowing horizontally into it. Wind-gage.

A steel spindle, about which the instrument easily moves, passes through two slips of brass near the top and bottom of the tubes, and may be screwed into a block at the time of observation. When the instrument is used, the tubes are to be filled with water half full. The wind, blowing in at the mouth of the metal tube, forces the water down in the one tube, and raises it so much higher in the other. But, as the wind does not blow with uniform velocity, the water is apt to fluctuate in the tubes: to remedy this, the incurvated part of the tubes should be contracted to $\frac{1}{10}$ inch diameter. The distance between the two surfaces of the water, estimated by a scale of inches and parts of an inch, placed by the sides of the tubes, will be the height of a column of water, whose weight is equal to the force of the wind blowing against an equal base. For every inch the surface of the water is raised, the force of the wind will be equal to as many times $5\frac{1}{2}$ pounds on a square foot. From the force of the wind so obtained, its velocity may be deduced, and is specified in the following table.

TABLE *of the corresponding height of Water, force on a square foot, and velocity of Wind.*

Height of water in inches.	Force of wind in pounds.	Velocity of wind per hour in miles.
$0\frac{1}{4}$	0	18.0
$0\frac{1}{2}$	0	25.6
1	5. 2	36.0
2	10. 4	50.8
3	15. 6	62.0
4	20. 8	76.0
5	26. 0	80.4
6	31.25	88.0
7	36. 5	95.2
8	41. 7	101.6

The

The dryness and moisture of the atmosphere may be ascertained by means of an instrument called a hygrometer, the different forms of which it is unnecessary to describe. The following one is of simple construction, and convenient for general use. It consists of a small moveable wheel, on whose axis an index is fixed, pointing to a graduated semicircle. About the wheel is wound a catgut, the lower end of which, at some distance, is fixed to something immoveable. As the cord relaxes or contracts, the wheel and consequently the index will be moved one way, or the other. Hygrometer.

Another hygrometer may be constructed on the same principal. Stretch a long catgut, or twisted cord in a horizontal position, with both ends immoveably fixed. Six or eight inches below this cord, place a small wheel freely moveable on an axis parallel to the horizon. Fix a fine silk thread to the middle of the cord, wind it about the wheel, and at the lower end of it let a weight be suspended: when the cord relaxes or contracts, by dryness or moisture, the middle of it will descend or ascend through a small space, and by the silk thread the wheel, with an index pointing to a graduated semicircle, will be moved one way or the other from the middle point O, which indicates the mean temperature of the atmosphere.

If a register of the state of the atmosphere, for a series of years, were carefully kept, by means of those instruments, changes of weather might be predicted with some degree of certainty.

The air is an elastic fluid, whose particles constantly repel one another. This repelling force, being superior to that of gravitation, keeps them asunder, and prevents them from precipitating in a dense mass to the surface of the earth; while the power of gravity in some degree counteracts that of elasticity, and diminishes the distance between the particles, which otherwise would be dissipated through the regions of infinite space. As the force of gravity is greatest, so the distance between

tween the particles of air will be least, near the earth's surface. But the higher the ascent is above the earth, the distance between these particles will be the greater, as the compression will be less. Hence it follows, that the weight of the air and its elastic force are always proportional to each other. On these properties the structure and use of the air-pump depend.

The elasticity of air is increased by heat, which dilates or expands it, and diminished by cold which condenses it. But by no pressure can the particles of air be brought into perfect contact, so as to form a solid mass; neither can it be rarified or expanded to infinity. No force hitherto known is able to reduce air into 800 times less space than it occupies on the surface of the earth; whereas, by several experiments, it has been dilated upwards of 13,000 times its former space, without the help of fire; and the degree of rarefaction may be increased by augmenting the degree of heat. On this principle depend the structure and use of the air thermometer.

The refractive and reflective powers of the atmosphere have been accurately ascertained by many facts and experiments. The former is proportionable to the air's density, which principally depends on its gravity, and, in general, must increase and decrease in the same proportion. By this variation, a ray of light, in passing through the atmosphere, is continually refracted at every point, and thereby describes a curve, and not a straight line, as it would have done were the atmosphere's density uniform.

By the reflective power of the air, objects are enlightened on all sides, and rendered completely visible; whereas, if no such power existed, the sides of objects exposed to the solar rays would be illuminated, while their opposite sides remained quite obscure; which would entirely alter the appearance of things, frustrate many of the designs, and abridge the comforts of life.

Sound

Sound.—There is a two-fold motion in the air: The first is that of the aërial particles in themselves simply considered, or a vibration of these particles *forward* and *backward* through the same space. The second is a motion of the whole body of the atmosphere, or any part thereof, from one place to another. The former is the effect produced by a stroke on a sonorous body, whose parts, being elastic, move forward through a small space, but by their renitent force return with a velocity equal to that by which they were displaced. This vibratory motion will continue for sometime agitating the contiguous air, by successive but gradually weaker impulses, which, striking the ear, produces the sensation of sound, whose duration is equal to that of the vibrations. Thus, a bell or glass, or extended wire string, which are elastic bodies, being struck, excite an undulatory motion in the air, which agitates the tympanum of the ear with an intenseness proportional to the force impressed, and to the distance. Though the vibrations are successive, and of course affect the elastic particles of air at intervals equal to those in which the vibrations are performed, yet these intervals are so exceeding short, that the pulses of the air cannot be distinguished, and therefore constitute one general or uniform sound.

When the aërial vibrations exciting sound strike against any fixed plain, or obstacle, they are reflected, and compelled to move in a different direction, which produces a second sound, or rather an image of the former, called *echo*. The time elapsing in a direct progressive motion of the vibrations to the obstacle, and thence to the ear, being longer than if no interruption had occurred, the echo must be heard later than the original sound, and as proceeding from a different place.

When the first impulse is confined, as by a speaking trumpet, to a small portion of air, the vibrations excited will be stronger, and the sound conveyed to a greater distance. When the vibrations are collected into one point by a hearing trumpet, the sound is also increased. A si-

milar effect is produced by the spherical surface of a dome; for, by a constant reflection and reciprocation on that surface, a whisper on one side of the dome is distinctly heard on the opposite side.

All sounds move with an equal velocity, at the rate of 1142 feet in a second: but of these there is an endless variety, occasioned partly by the constitution, figure, situation, or impulse of a sonorous body, partly by the constitution of the elastic medium upon which the impression is made. That sounds are more or less agreeable is owing either to the form and structure of the elastic body, or to the manner in which it is put in motion. In general, the smoother any body is, and the more delicate the original touch, the more delightful will be the sound produced. Smooth and clear sounds proceed from bodies homogeneous, or of an uniform figure. Harsh and obtuse sounds issue from such as are of a mixed nature, or of an irregular form. When the number of vibrations is frequent, the sound is said to be acute; when they are slow in succession, it is grave. Concord is produced by the agreement of two or more sounds, which affect the ear at the same time. When vibrations are performed in equal times, this agreement is called unison. When the vibrations are as 1 to 2, the agreement is called an octave: when they are as 2 to 3, it is a fifth; when as 4 to 5, a third, &c. Sound is loudest in cold and dense air; but weakest in air warm and rarefied. In a vacuum there is no sound.

Wind.—The second motion of the air is that of the whole body of the atmosphere, or any part thereof from one place to another. This motion, called *wind*, is occasioned by the rarefaction and condensation of the air. As it is a fluid, the natural state of air is rest, which it always endeavours to preserve, and, if disturbed, to recover. When, therefore, this equilibrium is destroyed by rarefaction in particular places, the weightier air will rush in to restore it. This, in general, accounts for the

the various currents of air, called sea and land breezes, monsoons, hurricanes, &c.

In the temperate zones, the wind being variable, blows from all quarters at different times. But in some countries this irregularity is not so great; and in others it blows from a particular quarter, and with nearly the same degree of force at certain seasons of the year.

In those parts of the Atlantic and Pacific Oceans nearest the equator, where the sun's influence in rarefying the atmosphere is most powerful, there is a regular wind throughout the whole year, called the *Trade Wind*. On the north side of the equator, it blows, with a little variation, from the north east, and on the south side of it from the south-east. The space included between the 2° and 5° N. latitude, is the interval limit of these two winds; and there calms and storms are frequent. In the Atlantic Ocean, the trade-winds extend farther north on the American than on the African coast. In the Indian Ocean they blow constantly from 10° S. to 30° S. latitude; but northward of this they change every six months, and blow directly opposite to their former course. These regular winds are called *Monsoons*. When they shift their direction, variable winds and storms succeed for a month, or longer. The monsoons in that ocean may be reduced to two, viz. one on the north and another on the south side of the equator; and they extend from Africa to the longitude of New Holland and the east coast of China.

Between 3° and 10° S. latitude, the south-east *trade wind* continues from April to October; and during the rest of the year the wind blows from the north-west. Between Sumatra and New Holland this monsoon blows from the south and south-south-east during our summer. It changes about the end of September, and continues in the opposite direction till the month of April. Between Africa and Madagascar, being affected by the coast, it blows from the north-east from October to April, and during the rest of the year from the south-west. Over all the Indian

Ocean, north of 3° S. latitude, the north-east trade wind blows from October to April; and a south-west wind from April to October. From Borneo to China this monsoon in summer blows nearly from the south, and in winter from the north by east. Near the African coast between Mozambique and Cape Guardafan, the winds are irregular during the whole year, owing to the different monsoons in that particular quarter. In the Red Sea the wind blows regularly from the north-east between April and October; and from the south-east during the other months.

On the coast of Brazil the direction of the wind is from the east, or north-east, between September and April, and from the south-west the rest of the year. In the Bay of Panama, on the west coast of America, the monsoon blows from the east between September and March; but between March and September from the south and south-west.

Such is the general direction of the winds in the Torrid Zone. But there are exceptions. On the African coast, from Cape Bajadore to Cape Verd, the winds are generally from the north-east; and hence to the island of St Thomas near the equator, they blow almost perpendicular to the shore. On the coast of New Spain, between California and the Bay of Panama, the winds blow almost constantly from the west or south-west, except during May, June, and July, when land winds prevail. On the coast of Chili and Peru, from 30° south latitude to the equator, and on the parallel coast of Africa, the wind blows during the whole year from the south, varying a little according to the direction of the land.

No satisfactory account has been given of the trade winds between the tropics. In all maritime countries of considerable extent in that division of the globe, the wind blows during a certain portion of every day from the sea, and during a certain number of hours from the land, and are called *sea* and *land* breezes. But the former are more regular than the latter, because they have a free and uninterrupted passage. In most tropical

pical countries the wind, in general, blows from the nearest ocean, except in the coldest months, when it blows from the land.

In the temperate zones the winds often suddenly change their direction. When they are long and violent, especially from the north and east, they traverse a great extent of country. Westerly winds are most frequent over the whole east coast of North America: in the southern provinces of that region, south-west winds predominate; and the north-west prevail towards the frigid zone.

In Egypt, during part of May, June, July, August, and September, the wind blows almost constantly from the north and north-west, varying sometimes in June to the west, and in July to the west and the east: during part of September, and in October and November, the winds, though variable, blow chiefly from the east; in December, January, and February, they come from the north, north-west, and west; towards the end of February, they change to the south, and continue in this direction until the end of March; and thence to May they blow from the south-east, south, south-west, and at last from the east.

In the Mediterranean the north wind blows nearly three-fourths of the year. An easterly breeze arises from the land in the evening, and a sea breeze from the west in the morning. In the Strait of Gibraltar there are seldom any winds except the east and west. On the north-east coast of Asia, the prevailing winds blow from the west.

In different countries the direction of the winds differs considerably according to the situation of the places where the observations have been made. In Great Britain the south-west is by far the most frequent wind. In April, May, and part of June, the east wind is common, especially on the east coast of the island. In Ireland the south-west and west are the trade winds. On the south coast of Europe the most frequent winds are the north, the north-east, and the north-west; and on the western coast the north-west prevails. In the interiour parts which lie contiguous to the

the Atlantic Ocean, the south-west wind is frequent; but in Germany easterly breezes predominate. In the south temperate zone, the winds are probably more constant than in our temperate region, as they are less interrupted.

The variations of the wind's velocity are almost infinite. By means of the shadows of the clouds, an ingenious author found the velocity of the wind in a gentle westerly breeze to be rather more than nine miles per hour; in a fresh gale twenty-one miles; and in a violent storm near sixty-three miles. There is sometimes a tempestuous wind at a distance from the earth, while it is calm at its surface; and *vice versa.*

For the causes of those numerous currents in the atmosphere, the reader may consult Thomson's System of Chemistry, second edition, Vol. III. where he will find this subject treated with perspicuity and precision. From that excellent work most of the foregoing observations, relating to the trade winds, and several illustrations of the following articles have been selected.

OF LIGHT.

LIGHT consists of inconceivably small particles issuing from certain bodies, in straight lines, and in all directions. The different sources from which light is emitted in a visible form, are, 1. The sun and stars, which are constantly diffusing rays of light. 2. Combustion, or the act of combining the combustible with oxygen. 3. Heat, which, when applied and increased to a certain temperature, renders a body, as red-hot iron, luminous. 4. Percussion, as when a flint and steel are smartly struck against each other a small spark of fire is emitted. Sparks of fire, too, are sometimes produced by the collision of two quartz stones, which is accompanied by a smell analagous to that of burning gun-powder.

The

The velocity of light is estimated to be nearly 200,000 miles in a second. In several of its properties it resembles heat, but in others it is different. There may be light where there is no heat, and *vice versa*. Particles of light pervade bodies of the greatest density, and the closest texture, without resistance, without crowding or disturbing one another, and without giving any sensible impulse to bodies of the least weight; which is a proof of the inconceivable smallness of those particles.

When a luminous ray passes through the same medium, or perpendicularly from one medium to another, it continues to move without changing its direction. But when it passes obliquely from one medium to another of different density, it is diverted from its rectilinear course, and is said to be *refracted*, and the quantity of refraction is proportional to the density of the medium into which it enters.

When a ray is thrown back by any opposing body, it is said to be *reflected*; and the angle of reflection is equal to the angle of incidence. When it passes within a certain distance of a body, it is inclined or bent towards that body; and this property is called *inflection*. When it is absorbed by any substance, it is said to be extinguished.

When rays of light proceed from a central point, and fly off in every direction, they are said to *diverge*; and when they are brought nearer to one another, as by a concave mirror, they are said to *converge*, and the point where they meet is the *focus*.

The doctrine of light has been admirably illustrated by various inventions and improvements of glasses, as telescopes, microscopes, &c.

Rays of light, which appear homogeneous and white, are, in reality, composed of seven different colours, viz. red, orange, yellow, green, blue, purple, and violet: but to what the difference of these species is owing has not been ascertained. But to whatever cause this may be ascribed, it is certain that bodies appear of different colours, according as they have the property of reflecting some rays more powerfully than others.

others. Though all bodies have the property of absorbing light, yet they do not absorb the rays indiscriminately ; for some absorb one colour, and some another, while they reflect the rest : hence different colours are produced. A red body, for instance, reflects the red rays, a green those that are green, &c. A white body reflects all the rays, and absorbs none, while a black absorbs all, and reflects none. If an equal portion of each of these species of rays, one after another, be made to illuminate any object, it will not be seen with equal distinctness at the same distance. We must stand nearest the object when it is illumined by red or violet. We see at a greater distance, when the object is enlightened by the indigo, or orange, ray ; farther when supplied by the light of the blue ray ; still farther when by the deep green ; and at the greatest distance, when by the light green, or yellow. All these colours are beautifully displayed in a rainbow, and may be produced by making the sun-beams pass through a glass prism into a dark room.

OF HEAT.

HEAT is supposed to be a substance by the action of which fluids are evaporated, and solids are either dissipated in vapour, or rendered fluid, or converted into glass. The following observations may convey some idea of the nature and properties of this substance.

An intimate connection subsists betwixt light and heat, though it has not been hitherto discovered on what this connection depends. Both are emitted from the sun with the same velocity nearly ; both are refracted from transparent bodies, and reflected by polished surfaces ; in both the matter seems exceedingly rare, and consequently the addition, or abstraction of either, cannot sensibly affect the weight of bodies, into which they are introduced ; their parts never cohere, but mutually repel each other, and when

when forcibly accumulated they fly off from one another in all directions. Heat, however, differs from light in this particular, viz. the latter produces in us the sensation of vision, whereas the former excites a sensation which we call by the name of the substance itself.

Heat attracts other bodies, and is attracted by them. In consequence of this mutual attraction, it enters into other substances, combines with them, and occasions changes in them. For instance, it produces expansion in bodies, and increases their bulk. This property of bodies has furnished us with an instrument, called a *Thermometer*, for measuring their relative temperatures. It is a glass tube with a small bore, at one end of which is a hollow bulb filled with mercury. The tube is hermetically sealed. When heat is applied to the bulb, the mercury expands, and of course rises in the tube. When the bulb is immersed in cold water, or ice, the mercury contracts, and sinks in the tube.

Heat gradually distributes itself in such a manner, that all contiguous bodies assume the same temperature. Thus, a bar of hot iron, exposed to the air, gradually cools, till it acquires the temperature of the bodies with which it is surrounded; and, on the other hand, a bar, cooled by ice, when taken into a warm room, becomes gradually hotter, till it attains the temperature of the room.

Heat penetrates all terrestrial bodies. In passing through air and several transparent substances, its motion is almost instantaneous; but through solid bodies, as iron or stone, it is remarkably slow. In the former case, heat is said to be *transmitted*, and in the latter to be *conducted*.

The greater number of solid bodies, when combined with heat, may be converted into fluids; and by the abstraction of heat the fluid again becomes a solid. Liquids, by the application of heat, may be converted into elastic fluids, invisible like air; thus, water by boiling is converted into steam, which is water combined with a certain proportion

of heat. In general, whenever a body changes its state, it either combines with heat, or separates from it.

Every body contains a certain quantity of heat, because no body is so cold that it cannot be made colder: but what quantity of heat exists in bodies has never been ascertained.

Heat may be evolved, and made sensible,—by combustion,—by percussion of hard bodies against each other,—by friction, or rubbing pieces of certain bodies, as dry wood, against one another. Light is also a source of heat, for, when coloured bodies are exposed to the light of the sun, their temperature is raised in proportion to the darkness of their colour; so that dark bodies must absorb and retain more heat, and reflect less of it, than those that are of a brighter colour.

The sensation of heat is produced by particles of heat passing into our bodies, and that of cold by heat passing out of them. We call any thing hot when it communicates heat to bodies in its vicinity, and cold when it absorbs heat from them. The strength of the sensation depends on the rapidity with which the heat enters or leaves our bodies; and this rapidity is proportional to the difference between our bodies and the hot or cold substance, and to the conducting power of that substance. As to the heat of our atmosphere, the Mercury in Fahrenheit's thermometer seldom falls below 16°: and 16° above freezing point, or 48° on the scale, is our middle temperature. Between 48° and 64°, the air is mild and agreeable; and thence to 80 it is warm and sultry.

Cold is the absence of the usual quantity of heat in a body. When we say that a substance is cold, we mean that it contains less heat than usual, or that its temperature is lower than that of our bodies. Some philosophers have maintained that cold is a substance resembling nitre, and constantly floating in the air, in very minute particles, which insinuate themselves between the molecules of water, and thereby convert it into a solid body called ice. But this hypothesis is now exploded. By the

the absence of heat, fluids are changed into a solid state, or congealed, and a slight disturbance disposes them to freeze more speedily. In the act of freezing, water and some other fluids expand; hence ice is specifically lighter than water, and floats in it: but oil and quicksilver, when frozen, shrink, and contract. A very great degree of cold may be produced by certain mixtures. Thus, in a mixture of snow and common salt, the thermometer will sink from 32° to 0°. And, if a still greater degree of cold is required, let snow and diluted nitrous acid, cooled to 0°, be mixed together, and the thermometer will fall to 46° below 0°. In the East Indies, congelation is produced by a solution of nitre in water.

OF EVAPORATION, RAIN, &c.

EVAPORATION, or the resolution of any substance into vapour, is effected by heat, and is one of the chief operations of chemistry. Vapour, an elastic and invisible fluid, lighter than an equal bulk of air, emanates from the surface of humid and other bodies, with greater or less rapidity, according to the temperature and attraction of the incumbent air. It ascends in the atmosphere, until it reaches a position where the air is of equal weight with it, and there it remains sometime in equilibrio. The aqueous particles of which it is composed, by a process of which we are entirely ignorant, gradually unite, and assume the form of small hollow vescicles, of the same specific gravity with the atmospheric air. Of these vescicles fogs and clouds consist, the formation of which, however, cannot be accounted for upon any principle with which we are acquainted. Clouds are seldom quiescent. As the air is variously agitated, they are carried about therein, every moment assuming new positions and aspects, according to the different weight of the air at different times. If the air becomes more dense, the clouds rise higher, and one

stratum of them appears above another. When the weight or density of the air is lessened, the clouds descend, combine, and darken the sky. The vapour thus condensed, being heavier than the air, falls down in rain to refresh and fertilize the earth. As rain falls in all seasons of the year, and at all times of the day and the night, the cause of it must be something that operates at all times and seasons. The region of clouds is generally not so high as the summits of the loftiest mountains, though sometimes they are formed much higher. The mean annual quantity of rain cannot, with any degree of accuracy, be ascertained, as a sufficient number of observations has not been made in different countries. The greatest quantity, in general, falls in the torrid zone, and the decrease is gradual towards the poles; though there are fewer rainy days near the equator, and more in proportion to the distance from it. The quantity of rain is greater, but the number of rainy days is less in summer than in winter; and more rain falls in mountainous countries than in extensive plains; more likewise near the sea coast than in inland provinces. It also appears that the increase of the quantity of rain depends greatly upon its nearer approximation to the earth. A rain-gage on the top of a house will have less rain than one near the ground. Upon measuring the rain that falls annually, at different places, its depth, on a medium, is found to be, at Zurich in Switzerland, $32\frac{1}{4}$ inches; at Pisa, in Italy, $43\frac{1}{4}$; at Paris 19; at Lisle, in Flanders, 24; at Upminster, in Essex, 19; at Townley, in Lancashire, $42\frac{1}{4}$; at London, 24. If we suppose the mean annual quantity of rain for the whole globe to be 34 inches, there will fall every year 91,751 cubic miles of water. The mean quantity falling in Great Britain is $32\frac{1}{2}$ inches. This island consists of about 77,793 square miles; therefore, $41\frac{2}{3}$ cubic miles of water will fall in it yearly.

Fogs and *mists* are condensed vapours, too heavy to be raised up into the air, owing to an unusual degree of heat in the surface of the earth and

and water, which throws them off faster and in a greater proportion than is common, or to a want of sufficient heat in the air to attenuate them, and increase their elasticity, and consequently their rarity. Hence they float in the lower strata of the atmosphere in opake particles, which are visible, but which prevent the distinct vision of other objects through them.

In a warm air, vapours are in an aeriform state; but, when condensed by the coldness of night, they descend in a fluid form upon the surface of the earth in pearly drops called *dew*. In a colder temperature, these particles are congealed; and while floating in the air they form what is called *rimy-fog*, which, descending on the herbs, grass, and trees, assumes the appearance of a beautiful incrustation called *hoar-frost*.

Water commonly crystallizes at the temperature of 32°. When the aqueous particles are crystallized by cold in the upper region of the air, they combine, in consequence of a reciprocral affinity between them, and cohere together in small masses, which, becoming too heavy to be supported by the air, gently descend to the earth in flakes of snow.

Hail seldom falls except in summer, when the vapours ascend to a great height. In those upper regions, intense cold congeals them into bodies of ice of different sizes, which, by their gravity, rapidly fall down in the form of *hail-stones*. But how such large bodies should be instantly formed, as they can increase in bulk but very little in the time of their descent, or how they acquire their particular shape, it is not easy to conceive.

Thunder and Lightning are well known by their direful effects; but the theory of these phenomena is still involved in some degree of obscurity. The most plausible account of them appears to be the following. In summer great quantities of exhalations, from sulphureous and other combustible substances, are, by the solar heat, raised into the atmosphere, and carry along with them a great deal of electric matter; so

that

that positive electricity is more or less predominant in the highest regions of the atmosphere where the vapours begin to be condensed. It is stronger in fogs where vapour is more condensed, so as to be almost reduced to drops, and stronger still when thick fogs are resolved into clouds. When this matter is accumulated in any particular strata, it will induce in them changes similar to what is induced upon plates of glass piled on each other. Therefore, if a stratum of air be positively electrified, the stratum above it will be negative, the stratum above that positive, and so on. Now, if an imperfect conductor, as a cloud composed of vesicular vapours mixed with particles of air, come into contact with two such strata, the equilibrium would be restored, and this would be attended with a thunder-clap, and with a flash of lightning. If a positive stratum be situate near the earth, and a cloud intervene, the electrical fluid will, with a loud explosion, discharge itself into the earth; but if the stratum be negative, the contrary effects will take place. Thunder, however, is seldom occasioned by a discharge of electric matter into the earth, or from the earth into the atmosphere. That every discharge of electricity produces some change similar to those of combustion, appears from this circumstance, that light and a sulphureous smell accompany all electrical discharges. In general, a course of hot weather precedes a thunder storm, and in summer seldom terminates without it. In the East and West Indies, where the climate is hotter than in Europe, thunder and lightning are more frequent and more violent than in this temperate region.

A thunder storm is indicated by the following appearances: viz. when one dense cloud, or more, increasing fast in size, rises into the higher regions of the air, the lower surface being black and nearly level, and the upper finely arched and well defined. Sometimes these clouds are piled upon one another, uniting and extending their arches. At the time of the rising of this cloud, the atmosphere is commonly full of separate clouds, that

that are stationary and of whimsical shapes. Upon the appearance of the thunder cloud, all these move towards it, and gradually become more uniform in their shapes, till, drawing near it, their extreme parts approach one another, and soon coalesce in one mass. But, sometimes, the thunder cloud will increase in size, without the conjunction of other clouds, the vapours in the atmosphere forming themselves into clouds, wherever it passes. Some of the adscititious clouds appear like white fringes, at the skirts of the thunder cloud, or under the body of it, but they become darker and darker as they approach to unite with it. When the thunder cloud is greatly increased in size, its lower surface is often ragged, and partly detached towards the earth, but still connected with the rest. Sometimes the lower surface swells into various large protuberances bending downward; and sometimes one whole side of the cloud will have an inclination to the earth, and the extremity of it nearly touch the ground. When the eye is under the thunder cloud, after it is grown larger and well formed, it is observed to sink lower, and to assume a more dense and dark appearance, at the same time that many small clouds are seen to move rapidly in various directions. While these clouds are agitated, the rain commonly falls in abundance; and if the agitation be very great, it hails. While the thunder cloud is swelling to a great extent, the lightning darts from one part of it to another, and often illuminates the whole mass. The longer the lightning continues, the less dense does the cloud become, and the less dark its appearance, till at length it bursts, disperses, and shews a clear sky.

LUMINOUS APPEARANCES IN THE ATMOSPHERE.

METEORS, or fireballs, have been frequently observed in the atmosphere. The elevation of some of these bodies above the earth is astonishingly great,

great, their motion extremely rapid, and their diameter in some instances exceeding 1000 yards. Dr Halley, in March 1719, observed a remarkable one, whose height he computed to have been about 70 miles, its diameter more than $1\frac{1}{2}$ mile, and its velocity about 350 miles in a minute. Another appeared in August 1783, whose diameter was at least equal to that of the former, whose velocity was 1000 miles in a minute, and its height above the earth not less than 90 miles. Those bodies generally disappear on a sudden, and with a loud noise. Heavy stony masses, composed of the same ingredients, resembling each other, and differing completely from every other stone, are said to fall to the earth at the time of the explosion. Many well authenticated instances of the falling of such stony substances have been recorded. When discovered soon after their fall, they are always hot, and buried to some depth under ground. Their size varies from a few ounces to several tons; and in many cases they smell strongly of sulphur. The outer surface is a rough black crust, chiefly of oxide of iron; the interiour part is composed of four substances, viz. small spherical bodies of greyish brown colour, fragments of a peculiar pyrites, grains of iron, and a grey cement of an earthy composition. These masses are probably concretions formed in the atmosphere: but, concerning the manner in which they are composed, and the splendour of their appearance in a region where the air is 300,000 times rarer than the air near the earth's surface, we presume not to offer a conjecture.

Rainbow. This is one of the most beautiful phenomena in nature. To attempt a description of it were superfluous, and with its theory almost every one is acquainted. It is generally formed by the reflection of the sun's rays from drops of falling rain; and is visible when the observer turns his back on the sun, while it rains on the opposite side. Its colours have been already enumerated, and are exhibited by a prism. They also appear among the waves of the sea, whose tops are blown by

by the wind into small drops; on the ground when the sun shines on a thick dew; in a cascade whose waters are divided in their fall. The rainbow appears always of the same breadth, because the degrees of refrangibility of the red and violet rays, the two extreme colours, are always the same. It forms a greater or smaller portion of a circle, as the line of sight is more or less inclined to the horizon; and this obliquity is increased in proportion to the obliquity of the sun; consequently the size of the bow diminishes as the altitude of the sun increases. When the sun's altitude exceeds 42°, there is no rainbow. It may likewise be observed, that this phenomenon shifts its situation, as the eye does, the coloured drops being disposed under a certain angle about the axis of vision, which is different in different places; whence it follows, that every different spectator sees a different bow. The moon sometimes exhibits an iris, by the refraction of her rays, in the drops of rain, in the night-time; but this must be at full moon, her light at other times being too faint to produce that effect.

Aurora Borealis is a luminous appearance displayed in the night-time, in the northern part of the heavens, usually in frosty weather, and sometimes attended with a hissing noise through the air. The aspects of this remarkable phenomenon are various. 1. A horizontal light, like the break of day. 2. Fine, slender, luminous beams, well defined and of dense light. These sometimes continue a whole minute at rest, but commonly vibrate with a quick lateral motion. 3. Flashes pointing upwards, or in the same direction as the beams, which they always succeed. These are only momentary, and have no lateral motion; but they are generally repeated many times in a minute. They appear much broader, more diffuse, and of a weaker light than the beams. 4. Arches, nearly in the form of a rainbow, extending quite across the heavens. No record of this appearance exists in the English annals prior to the middle of the 16th century. During the latter part of that century, it

was often observed; but no mention of it was made from 1621 to 1707. To account for this phenomenon, Dr Halley conceived, that it was produced by a kind of magnetic effluvia, which, entering into the earth near the south pole, passes out again with a like force into the ether at the same distance from the north pole, whence it ascends in arches of great circles to a vast height above the earth. Mairan conjectures it to be the zodiacal light, which, according to his hypothesis, is the sun's atmosphere, that, on certain occasions, falls into the atmosphere of the earth, but is thrown off both ways from the equatorial to the polar regions. But, on this supposition, the light should dart from the equator to the poles, and not, as it really does, from the poles to the equator. Other philosophers, with more plausibility, consider this phenomenon as the effect of electricity; and it is certain that appearances exactly similar may be exhibited by a tube containing air about forty times rarefied. Dr Franklin conjectures, that it is produced by the electrical fire discharged into the polar regions from many leagues of vapour raised between the tropics; that it appears first where it is first in motion, i. e. in the most northern parts; and that the appearance proceeds southward, though the fire in reality moves northward. Volta ascribes it to inflammable air raised in great quantities from marshes. But no satisfactory account of it has been hitherto given. It may not be improper to add, that the Aurora Borealis is of an astonishing height, being sometimes from 400 to 800 miles above the earth's surface.

Volcanoes and Earthquakes are the most tremendous ministers of nature. From a profound aperture in the earth, are impetuously discharged clouds of smoke and ashes, together with torrents of flame, sulphur, and melted metal. This is the true idea of a volcano. To account for such dreadful explosions, it has been remarked, that in the subterraneous regions vast stores of inflammable substances are deposited. When humidity, or water, finds its way into those depths, their fires are put in motion,

tion, and the air, which is thereby generated, acquires great elasticity and force. At length it overcomes all resistance, and in its struggles to get free produces the dreadful effects so often felt, and the recital of which is found in every system of natural history. The ancients have left some notices of volcanoes, particularly those of Ætna and Vesuvius; but modern philosophers have examined more minutely their force and effects. The eruptions of Mount Ætna are very violent, and the discharge of its contents has been known to cover the neighbouring soil 68 feet deep. Those of Vesuvius, Stromboli, and Hecla, are less terrible in proportion to the size of the mountains. In Asia, Africa, and America, volcanoes are numerous.

Earthquakes and volcanic explosions seem to proceed from the same cause, with this difference, that the fury of the one is exhausted in the eruption, whereas that of the other spreads wider, and acts more fatally by being confined. The latter alarms, or destroys a province only, while the former lays kingdoms in ruins. To enumerate all the opinions of speculative men on this subject, accords not with the plan I have adopted. It may not, however, be improper to observe, that the activity of internal heat, or the force of electric matter, seems alone sufficient to account for every appearance that attended these convulsions; though no satisfactory theory has been fully established by a sufficient number of facts and accurate observations.

OF THE EARTH.

THE *Earth*, composed of land and water, is called the Terraqueous Globe, whose form is a spheroid, the diameter of the equator exceeding the polar axis about 13 leagues; but, by a geographer, it may be considered as a perfect sphere, whose diameter is 3965 English miles.

According to the system of the ingenious and eloquent M. Buffon, this globe is not, like the planet Jupiter, divided by belts parallel to the equator, but by alternate tracts of land and sea, extending from the north towards the south pole. The most remarkable of these is the old continent, whose greatest extent, viz. from the north-east extremity of Tartary to the Cape of Good Hope, is about 3600 leagues, interrupted only by the Caspian and Red Seas, whose mean breadth does not exceed 110 leagues. This line divides the old continent into two equal parts nearly: that on the left containing 2471092$\frac{3}{4}$ square leagues, and the other 2469687$\frac{1}{4}$; both amounting to 4940780 square leagues; *i. e.* about one fifth of the surface of the globe. Its inclination to the equator is a little more than 30 degrees. A meridian line in this division, viz. from North Cape in Lapland to the Cape of Good Hope, does not exceed 2500 leagues.

In the new continent, the greatest extent of land, from the mouth of Rio Plata to the marshy country beyond the lake of Assinibois, is about 2500 leagues, interrupted only by the Mexican Gulph. This line divides the continent into two parts, that on the left containing 1069285$\frac{5}{8}$, and that on the right 1070926$\frac{1}{1\,2}$ square leagues. This line is inclined to the equator somewhat less than 30 degrees, but in a direction different from the former. Both these divisions amount to 2140211$\frac{1}{1\,2}$ square leagues: so that the whole surface of the two continents, not including island, is 7080992 leagues; that is, nearly one-third of the surface of the globe, which contains 25 millions. With regard to the position of the old and new continents, one circumstance merits particular notice, viz. that they are situate almost opposite to each other, the former to the north and the latter to the south of the equator. The centre of the old continent is in 16° or 18° N. latitude; and that of the new continent in 16° or 18° S. latitude; so that they seem to balance one another.

M.

M. Buach's division of the earth's surface, I have already endeavoured to represent.

The terrestrial part of the globe consists of two continents, and innumerable islands. The *old* continent comprehends Europe, Asia, and Africa; and the *new* continent North and South America.

On the surface of those continents, there is a great inequality of hills, plains, and vallies, a remarkable diversity of soil, together with a surprising variety of colour; affording the most delightful scenery, and rendering the whole a commodious habitation for men and beasts.

The protuberances of the earth are of various forms and sizes; from the gentle eminences covered with trees, shrubs, and pastures, gradually ascending to huge masses of rock piled on one another, and projecting their bare and serrated tops above the clouds. Some hills are of a regular shape, and insulated; some compose elevated plateaus or groups; others extend in long chains from west to east, and from north to south. In some tracts they are separated from each other by deep ravines and vallies; the contours of others in one place are tolerably uniform, and in another very irregular; while a detached hill elsewhere appears in the middle of a plain.

The highest ridges of hills, or mountains, are between the tropics, and they gradually diminish towards the pole. The Cordeliers in America lie under and on either side of the equator: Mount Caucasus, and the Thibet Chain are situate between 32° and 36° N. latitude. By the height and position of the mountains, the temperature of the climate is materially affected. Hence the inhabitants of France and of Canada, under the same latitude, experience very different degrees of heat and cold; and while the coast of Coromandel enjoys the serenity and warmth of summer, the winter rains fall abundantly on the Malabar coast. Among the highest mountains are reckoned Adam's Peak in Ceylon,—the peak of Teneriff 15,396 feet above the level of the sea,—Mont Blanc 14,432,—

Pichincha

Pichincha 15,606,---Coraçon 15,841,---Antisana 19,300,---Chimboraço 20,280. In general, mountains are most precipitous on the south and west sides. This observation is exemplified in the mountains of Switzerland, Great Britain, Norway, and most perfectly in those of South America. Their arrangement, according to the substances of which they are composed, will be afterwards adjusted.

It is found that mountains cover the sources of many rivers, and that the more extensive the mountain is, the more copious is the stream that issues from its recesses. Thus, the river Amazon has its source among the Andes; the Niger flows from the most elevated tract in the western part of Africa; the Danube, the Rhine, the Rhone, and the Po, proceed from the highest ridge of mountains in Europe; the Ganges and Burrampooter descend from the stupendous chain in Thibet.

In mountainous regions there are proportionably deep vallies, high precipices, and dreadful abysses, some of which have been the furnaces of ancient volcanoes, as the abyss of Mount Ararat described by Tournefort; and others still exhibit fiery eruptions. Caverns are of various descriptions: some have been constructed by the hand of nature, as the celebrated grotto in Antiparos; others of great extent are the production of human art and industry, as the labyrinth of Candia, the catacombs in Egypt, the salt mines in Poland, and the stone quarry near Mæstricht.

Uninhabited and uncultivated tracts are called deserts, of which some are immense sandy wastes, as the deserts of Africa and Arabia; and some called stepps resemble our heaths.

The surfaces of hills, plains, and vallies are chiefly composed of vegetable earth, that owes its origin to sediments of air, of vapours, and of dews, and to the successive destruction of rocks, herbs, plants, leaves of trees, &c. This stratum is thicker in vallies than on hills. The soil of plains and acclivities is more or less fertile according to particular local circumtances.

PRODUCTS OF THE EARTH.

The products of the earth are *external* and *internal*. External products are *animate* and *inanimate*. Animate bodies comprehend all the genera and species of creatures endued with sense and motion; but these it is not the province of geography to enumerate.

Inanimate bodies are *organic* and *inorganic*. Organic bodies without animation are vegetables, the classification and history of which belong to the botanist. Vegetables have many properties in common with animals, but they are destitute of voluntary motion. They are propagated from seeds and eggs; they are of different sexes, and furnished with a variety of vessels for the reception, transmission, and secretion of different fluids. They are likewise endued with functions by which the aliment they imbibe is changed into new forms. They exhibit various appearances of sensibility and motion. They are affected by the climate, the nature of the soil, the quality of their nourishment, and other circumstances. Lastly, they are obnoxious to the decays of age, to diseases, and death. Of these products some serve for nourishment to men; others for cloathing and various uesful purposes. Of the former class are grain, roots, and fruit; of the latter are lint, hemp, shrubs, wood, &c.

Inorganic bodies. All the solid materials of which the globe is composed, or all the inorganized solid substances, found on the surface, or dug out of the bowels of the earth, are called minerals. These are resolved into the following classes:—1. Earths. 2. Salts. 3. Combustibles, or inflammable substances. 4. Metals.

EARTHS.

EARTHS.

I. Earths form that mould from which vegetables grow, and consist of a variety of substances, mixed together without order or regularity. Every body is an earth which possesses the following properties, viz. insolubility in water, or nearly so; little or no taste, or smell; fixedness and incombustibility; and, when pure, capable of assuming the form of a white powder.

The earths at present known are ten in number. 1. *Barytes*, obtained from ponderous spar. 2. *Strontian*, found always combined with carbonic or sulphuric acids. 3. *Lime*. 4. *Magnesia*, never yet found native in a state of purity, or in a crystallized form. 5. *Alumina*, the basis of alum. 6. *Yttria*, at first found in a black mineral in the quarry of Ytterby, a place in Sweden. 7. *Glucina*, found in the Beryl, or Hyacinth, a transparent stone. 8. *Zirconia*, found in the Zircon and Hyacinth, two precious stones. 9. *Augustina*, found in a mineral called the Saxon Beryl. 10. *Silica*, found in Quartz.

The earths have been subdivided into *alkaline* earths, and earths *proper*. The former are Barytes, Strontian, and Lime, which agree with alkalies in taste, causticity, solubility in water, and in their effect on vegetable colours. The earths proper are five, viz. Alumina, Yttria, Glucina, Zirconia, and Augustina. Magnesia unites these two classes, and partakes of the properties of both.

Aggregates of earths comprehend all mechanical mixtures of earths and stones found in the mineral kingdom; and of these the greater part of the globe is composed. These may be divided into four classes, viz. mixtures of earths,—amorphous fragments of stones,—chrystallized stones, and aggregates formed by fire.

1. Mix-

1. Mixtures of earth include—1. *Clay*, a mixture of alumina and silica, with other substances in small proportions. Of clay there are various species, viz. porcelain clay, common clay, lethomarga, bole, and Fuller's earth. 2. *Calorific* earths, *i. e.* clay mixed with some colouring ingredient, as red chalk, yellow chalk, black chalk, green earth. 3. *Marl*, a mixture of carbonat of lime and clay; of which there are two kinds, viz. siliceous and argillaceous. 4. *Mould*, the soil on which vegetables grow, and of which the varieties are innumerable; as sand, consisting of small grains of siliceous stones; clay, mixed with vegetable and animal substances; loam that does not cohere so strongly as clay, but more tenaciously than chalk; till, a mixture of clay and oxide of iron, and is red, hard, and heavy.

Amorphous fragments of stones adhering together. Of these there are four genera: The first consists of *sandstone*, i. e. small grains of sand slightly cemented by lime, alumina, silica, or iron. There are several species of sandstone; as calcareous sandstones, which are merely carbonat of lime, or marl, with a quantity of sand between its particles. The surface is rough, and the colour grey or brown. Aluminous sandstone, the basis of which is alumina, or clay; the structure is slaty, the texture compact, and the colour grey, brown, or yellow. Siliceous sandstone, viz. grains of sand cemented by silica. Ferruginous sandstone, in which iron acts as a cement, and produces a dark red, or brown colour. The second genus is *plumpudding-stone*, composed of flint, pebbles of quartz, &c. cemented by a siliceous matter often mixed with iron. The third genus is *Amygdaloid*, i. e. small masses of chalcedony, garnets, hornblende, &c. cemented by a basis of indurated clay, or trap. This stone is opaque and of various colours. The fourth genus is *Breccia*, viz. angular fragments of stones of the same species agglutinated together.

3. The third class of aggregates, is composed of crystallized stones, i. e. crystals of different kinds cemented; as granite, sienite, granatine, granitell, granilite, trap, porphyry, &c.

4. Volcanic aggregates are, 1. *Lava*, i. e. substances issuing out of a volcano, in a state of fusion. 2. *Puzzolana*, a brittle, dark-grey, or brown, porous stone, of a rough surface. 3. *Pumice*, a brittle, grey, porous, light substance, ejected from volcanoes. Of these four classes of aggregates the mountains are chiefly composed.

Mountains may be likewise divided into four classes, viz. *Primitive*, *Intermediate*, *Secondary*, and *Volcanic*.

Primitive Mountains are composed of the following stony substances. 1. *Granite* formed of felspar, quartz, and mica, crystallized and united to each other. It is hard, of a granular texture, and susceptible of a fine polish. 2. *Gneiss*, of a slaty structure, and composed of quartz and felspar, with a small proportion of mica. 3. *Micaceous schistus*, composed of quartz and mica, which alternate in plates. Most of the mines in Sweden and Norway, with some in Hungary and Saxony, are found in mountains of this mineral. 4. *Argillaceous schistus*, whose component parts are silica, alumina, magnesia, lime, and oxide of iron. Its texture is foliated, its structure slaty, and its layers of different thickness. 5. *Porphyry*, consisting of a compact ground, in which distinct and separate crystals of other substances are lodged. 6. *Sienite*, composed of crystals of felspar and hornblende intimately united. Felspar is a hard substance commonly crystallized, of a pale colour, a slaty structure, a foliated texture, and a peculiar odour when rubbed. Hornblende is an opaque mineral of a foliated texture and a greenish colour, sometimes amorphous and sometimes crystallized. 7. *Serpentine*, found in amorphous masses, forming strata, and even entire rocks. It emits an earthy smell when breathed upon, and is of various colours. 8. *Primitive limestone*, of a granular texture and a greyish colour. 9. *Primitive Traps*,

Traps, distinguished by the hornblende they contain. 10. *Quartz*, of a compact texture, sometimes schistose, and of various colours. Of this species is the amethyst, rock-crystal, flint, opal, pitchstone, &c. 11. *Topasfels*, composed of quartz, shorl, topaz, and lithomarga, of a granular texture and schistose structure. 12. *Siliceous schistus*, brittle, of a compact texture, a slaty structure, and various colour, traversed by small veins of quartz, and used by the ancients as a touchstone.

Intermediate Rocks, or rocks of Transition, so called, because they form, as it were, the passage between the primitive and the secondary rocks. 1. *Limestone*, sometimes granular, sometimes compact, of various colours, usually stratified, and often containing metallic veins. 2. *Grauwacke*, common and schistose, stratified, traversed by veins of quartz, and rich in ores. 3. *Transition Traps*, of two species, viz. mandelstein and globular. The basis of all these rocks is grunstein, an aggregate of hornblende and mica, or Moscovy glass.

Secondary rocks are usually stratified, containing remains of organized bodies. 1. *Sandstone*, composed of quartz, cemented by clay, or lime. 2. *Secondary limestone*, distinctly stratified, sometimes containing quartz, pyrites, shells, &c. 3. *Chalk*, in which are found flints, shells, &c. 4. *Gypsum*, strata of which alternate with sandstone, limestone, clay, &c. Sometimes it contains foreign crystals, sulphur, bones of quadrupeds, &c. 5. *Rock salt*, strata of which usually alternate with gypsum. 6. *Pitcoal*, strata of which alternate with sandstone, limestone, clay, &c. 7. *Argillaceous ironstone*, beds of which alternate with indurated clay, sandstone, &c. and sometimes they contain calamine, petrifactions, &c. 8. *Secondary traps*, composed of various stony substances, as basalt, wacken, basaltic tufa, porphyry, schistus, secondary grunstein, &c. Trap mountains are usually insulated, and abound in petrifactions.

Volcanic Rocks are minerals ejected during volcanic eruptions. 1. *Minerals* modified by volcanic fire; of which some are of a compact tex-

ture, and others are porous. 2. *Minerals* not modified by fire, but thrown out unaltered; as fragments of rocks, crystals, &c. 3. *Substances sublimed*, as sulphur, mineral, oil, salts, &c. 4. *Substances altered by sulphureous acid vapours;* as alum, sulphats of lime, iron, &c. 5. *Volcanic substances* altered by the action of the atmosphere. Thus, the argillo-ferruginous lavas, in process of time, are converted into a kind of friable clay; scorias rapidly undergo the same change, and porous lavas are gradually filled with earth of decomposed lavas.

Besides the products of volcanoes, some minerals have been altered by the action of fires not volcanic; as porcelain, burnt clay, earthy scorias, &c. To this class belong vitrified forts common in Scotland.

Alluvial depositions are composed of the particles washed down from mountains by torrents of water. The depositions on the surfaces of mountains are clays; those in the vallies are fragments of the surrounding heights; and those on the plains consist of pebbles, sand, clay, tufa, coal, wood, &c. composing four sorts of soil, viz.—1. *Sand*, containing pebbles, gravel, with a little clay and sometimes shells. 2. *Mud*, usually clay, containing sand, pebbles, and iron ore. 3. *Marshy soil*, consisting of the remains of vegetables, coal, peat, wood, &c. 4. *Tufas*, or beds of lime deposited on vegetables.

SALTS.

THE term *Salt* was originally confined to muriat of soda, or common salt. It was afterwards used in a very extensive and indefinite sense; for every substance soluble in water, easily melted, not combustible, and that has a pungent taste, has been called a salt. In process of time, the word was restricted to three classes of bodies, viz. *acids*, *alkalies*, and the *compounds* which acids form with alkalies, earths, and metalic oxides. The first two of these classes were called simple salts, and the

the third was called compound, or neutral salts. The acids and alkalies were formerly divided into mineral and vegetable. Under mineral acids were comprehended the vitriolic, or sulphuric, the nitrous and muriatic. But this distinction is scarcely any longer observed. The fluoric, boracic, and phosphoric, are equally entitled to be ranked in the same class. The vegetable acids are obtained from the juices of certain plants and fruits: their number is unknown, as it is daily increased by the researches of chemists. With vegetable acids may be classed the animal acids, as they do not differ essentially from them in composition, excepting the phosphoric. Alkali, at first used to denote the ashes of the plant kali, was afterwards applied to all bodies which are incombustible, may be volatilized by heat, are soluble in water, of a hot caustic taste, and capable of converting vegetable blues into green. The alkalies at present known, are potash, sometimes called vegetable alkali, and salt of tartar; soda, called also fossil, or mineral alkali; and ammonia, known likewise by the name of volatile alkali, hartshorn, and spirit of urine.

Acids and alkalies have been excluded from the class of salts; and the term, now still more restricted, denotes only the compounds formed by the combination of acids with alkalies, earths, and metals; so that the words salt and neutral salt are now synonymous. The number of salts has not been ascertained, but they are not fewer than 2000, and are denominated from the acids they contain. Many of them, however, have not been examined, and others have not been applied to any use.

The Salts naturally divide themselves into two classes. 1. The *alkaline* and *earthy* salts. 2. The *metalline* salts. The former, distinguished by their acids, may be divided into thirty-two genera, every acid constituting a genus: but the enumeration and description of these are the province of the chemist. Among them are reckoned vitriol, alum, saltpetre, common salt, alcaline salt, acid salt, sal-ammoniac, borax, &c. By far the greater number of saline bodies are of little use, either in chemistry

chemistry or in arts. But some, as alum, copperas, &c. constitute the basis of different arts and manufactures; and others are the sources from which chemists obtain many of the most valuable of their instruments of analysis, as salts, nitre, sal-ammoniac, &c.

COMBUSTIBLES.

MINERAL combustible substances possess the property of being consumable by fire. Among these are reckoned the following, viz.

Sulphur found in many parts of the globe, especially near volcanoes; either in powder, or massive, or crystallized; of a yellow colour shaded with green. It burns and evaporates in the fire, yielding a blue flame and a fœtid odour.

Diamond, a mineral composed of pure carbon, and found in different parts of Asia, and in Brasil. It is hard, brilliant, of various colours, and always crystallized.

Bitumen, either liquid, soft or hard, and generally of a black colour. There are several species of this mineral; as, Naphtha, an inflammable oil, sometimes found on the surface of springs, of a pale white colour, set on fire by the approach of flame, emitting a strong but not disagreeable smell;—petroleum, of a yellow colour with a shade of red, yielding a soot when burned;—mineral tar, viscid, of a blackish colour, with a bituminous odour;—mineral pitch, resembling common pitch, of a dark colour;—asphalt, found in Trinidad and many other parts, brittle, and of a brownish black. When manufactured it is sometimes used for greasing carriages, but when heated it melts, swells, and inflames.

Pit-coal, or jet, a black, hard, mineral pitch, of which buttons, snuff-boxes, &c. are made. It melts in a strong heat, emits a greenish flame, and leaves an earthy residuum. *Cannel*, or Candle Coal, commonly

monly called parrot coal, black, hard, brittle, and susceptible of polish. *Common* coal, found in inclined strata of different thickness. Of this species there are many varieties. *Kilkenny* coal, found in stratified masses, or in lumps bedded in clay; black, hard, insoluble in acids, and consisting almost entirely of charcoal. It burns slowly without emitting flame or smoke.

Amber, found most abundantly along the coasts of Polish Russia and Pomerania; yellow, hard, and generally transparent. It burns without melting.

Plumbago, or black lead, of a dark iron-grey colour, a slaty structure, hard and brittle. Its use when manufactured into pencils is well known.

ORES.

ORES are natural compounds, containing metals allayed with different substances; and may be divided into 23 classes, allotting a distinct class for the ores of every metal. The metals sometimes exist in a metallic state, and are either solitary or combined with each other, or with sulphur, in the state of oxides, or united with acids. Ores are found in detached fragments, and in masses filling fissures in rocks. These masses are called veins, and lie in all directions, from half an inch to several feet in thickness. Two kinds of stone, in particular, seem to accompany ores. The one is quartz, a kind of crystal, and of the class of vitrifiable earths. The other is spar, resembling gypseous stones, but of greater weight. These earthy and stony substances form the matrix of the ore. Ores consist of *metallic* substances calcined; such are ferruginous ochres, which are oxides of iron. 2. *Mineralized* ores, which are either simple, containing

ing one ore only; or compound, consisting of metallic substances mineralized by sulphur, as *galena* a lead ore; or combined with arsenic, as the white pyrites containing iron and arsenic; or mineralized by arsenic and sulphur, as red silver ore; or combined with saline substances, as native vitriols. Metalliferous ores are found in various places; under water, as grains of gold, fragments of ores, &c. dissolved in water, as vitriolic springs which contain iron, copper, and zinc; below the earth's surface, either diffused through the substance of earths and stones, or forming strata and veins in mountains.

METALS.

METALS, composed of earth and some other unknown principles, are the heaviest of all substances, and are distinguished by their peculiar lustre, opacity, fusibility, ductility, and malleability. At present they amount to 21, and are commonly divided into perfect, imperfect, and semimetals. But this distinction being now exploded, they are more conveniently arranged under three classes, viz. 1. Metals which are malleable. 2. Such as are brittle and easily fusible. 3. Those that are brittle and fusible with difficulty.

MALLEABLE METALS.---1. *Platinum*, hitherto found only in South America, heavier than gold, white, extremely tenacious, very ductile and malleable, fusible by a strong heat. It is always found in small scales, in a metallic state, and combined with iron.

2. *Gold*, of a yellow colour, found in many parts of the globe, sometimes pure, or mixed with a small proportion of silver, copper, or iron, but most commonly disseminated through the veins of other metals. It surpasses every other substance in ductility and malleability. An ounce of gold-leaf upon silver-wire is capable of being extended more than 1300 miles in length.

3.

3. *Silver*, next to gold and platinum, the most perfect, fixed, and ductile of all metals, harder and more sonorous than gold, and fusible with a less degree of heat. It may be beat into leaves $\frac{1}{100000}$ inch thick, and a grain of it may be drawn out into wire 400 feet in length. It is found in quartz, limestone, hornstone, or combined with the ores of other metals.

4. *Mercury*, or quicksilver, of a white brilliant colour, fluid at the common temperature of the atmosphere. It boils when heated to 600°, and freezes when the temperature is—39°. With most other metals it combines, and may be totally evaporated by heat. It abounds in Europe, South America, China, and occurs most commonly in schistus, limestone, and sandstone.

5. *Copper*, the hardest and most elastic of metals, except iron; commonly found in rocks of hornblende, schistus, and quartz. It is considerably ductile, malleable, sonorous, fusible, and destructible by fire. Native copper occurs sometimes in masses, sometimes in plates of various forms, and sometimes crystallized in cubes. It is the basis of several metals, as brass, bell-metal, Prince's metal, white copper, &c.

6. *Iron*, the hardest, most abundant, and most useful of all metals. Its properties are well known, viz. hard, fusible, malleable, combustible, and magnetic.

7. *Tin*, the brightest of malleable metals, and least ductile, except lead. It is of a white colour and a disagreeable taste, soft, easily fusible, elastic, and sonorous. The only tin mines in Europe are those of Cornwall, Devonshire, Saxony, Bohemia, Silesia, Hungary, Gallicia. Bell-metal is three parts copper and one of tin.

8. *Lead*, a pale metal, soft, flexible, not ductile nor sonorous in any considerable degree, malleable, fusible, and capable of combining with most of the metals. By means of heat it is formed into red lead, and by the steams of vinegar into white lead. Pewter is composed of three parts of tin and one of lead.

9. *Nickel*, of a white colour, softer than iron, rendered brittle by heat, malleable when cold, and like iron attracted by the magnet. It has been hitherto found in small quantities in Britain, France, Germany, &c. and commonly accompanies cobalt.

10. *Zinc*, when pure, of a brilliant white colour, composed of a number of thin plates adhering together. It is fusible, but not ductile, nor so malleable as the metals already mentioned. It generally accompanies lead ores. Three parts of copper and one of zinc form brass. Three parts of zinc and four of copper form pinchbeck, or Prince's metal.

BRITTLE AND EASILY FUSIBLE METALS.—1. *Bismuth*, composed of broad brilliant plates of a yellowish colour adhering to each other. It is fusible, but not ductile, and loses its lustre when exposed to the air. It combines with almost all the metals, often accompanies cobalt, and is found in England, Germany, France, Sweden, &c. Dissolved in nitrous acid, it forms a paint called pearl white.

2. *Antimony*, a ponderous brittle mineral, of laminated texture, and a greyish white colour, fusible, and easily reduced to a fine powder. It combines with most metals; and is found abundantly in many countries of Europe. Sixteen parts of lead and one of antimony form an alloy for printers types.

3. *Tellurium*, a metal of a bluish white colour, intermediate between zinc and lead, brilliant, fusible, easily reduced to powder, and the most volatile of all the metals, except mercury and arsenic. It is found in Transylvania.

4. *Arsenic*, a brittle compact substance of a bluish white colour, volatile, and extremely combustible. It has a sharp acrid taste, when heated it emits a strong odour of garlic, and is a most virulent poison. It combines with most metals, rendering them more brittle and fusible.

METALS BRITTLE AND FUSIBLE WITH DIFFICULTY.—1. *Cobalt*, a heavy and grey coloured mineral, almost without taste or smell, brittle, and

and easily reduced to powder, attracted by the magnet, somewhat malleable when hot, fusible, and capable of combining with most metals.

2. *Manganese*, a very hard, brittle, dark grey, or brown, mineral, of a granular texture, with a good deal of brilliancy, and fusible by an intense heat. It combines with many of the metals: when reduced to a powder it is attracted by the magnet, and has been long known and used in the manufacture of glass.

3. *Tungsten*, *i. e.* ponderous stone, found in Sweden, one of the hardest of metals, of an opaque white colour, brittle, fusible, not attracted by the magnet.

4. *Molybdenum*, composed of scaly particles adhering slightly together, of a colour resembling lead, and almost infusible.

5. *Uranium*, found in Saxony, of a dark grey colour inclining to brown, opaque, tolerably hard, fusible by a strong heat. On being pounded it yields a black powder. Nothing is known concerning its malleability or alloys.

6. *Titanium*, found in Cornwall, of an orange red colour, with a good deal of lustre, but not fusible by any heat that can be produced. Neither its hardness nor malleability has been ascertained.

7. *Chromium*, found near Ekaterimbourg in Siberia, brittle, of a white colour, with a shade of yellow. It is fused with difficulty; but few of its properties are known.

WATER.

WATER is a compound of oxygen and hydrogen; but it is never found in a state of complete purity. In some cases, the quantity of foreign matters is so minute as to have little influence on the properties of this fluid; but, in other cases, the foreign bodies alter its properties al-

together, and render it noxious, or medicinal, or unfit for the preparation of food. When not mixed with any extraneous ingredient, water is volatile, colourless, insipid, and void of all smell and taste. It falls from the atmosphere in dew, rain, or snow, and is found on the earth in its proper channels and cavities. The growth of all animals and vegetables is promoted by water, and they return in part to water again. Its parts enter into the composition of all bodies, not only vegetable and animal, but also fossil, and by heat may be easily separated from them. The filings of lead, tin, and antimony, by distillation, yield water abundantly; the hardest stones, nitre, vitriol, and sulphur, contain a considerable proportion of this element. Almost every substance that mixes with earth, derives from it texture and firmness; and, deprived of it, becomes a mass of shapeless dust and ashes. The disposition of this globe into parallel strata, is, by some geologists, supposed to have been the effect of water, from the quantities of marine substances found in chalk, coal, slate, and stone.

Waters used for the common purposes of life, differ in quality, according to the circumstances of their situation, and the sources whence they flow. They may be reduced to four heads, viz. rain-water, spring and river water, well-water, and lake-water.

Rain-water, in an open country, is perhaps the most pure and perfect, though mixed with various volatile substances suspended in the atmosphere. The substances which it holds in solution, are air, carbonic acid, and carbonat of lime. From these impurities, it cannot be entirely separated without much difficulty. Salts, sulphurs, or metals, likewise enter into its composition, and tend to increase its weight.

With regard to the origin of *Springs*, there is great diversity of opinions. The two following seem to be the most plausible. 1. The sources in level tracts are supplied by vapours exhaled from the earth, which descend in dew and rain upon the hills, filter through their soil, collect

collect at the bottom of their declivities, or in caverns, and, by gradual accumulation, emerge at the surface. Hence we find them often impregnated with earthy, saline, or metallic particles, and soon affected by drought. Some springs are supplied by water from the interior parts of the earth. These are not sensibly diminished by the greatest drought, and in rainy seasons are seldom overflowed. Running springs produce brooks; a confluence of small brooks form a rivulet; and many rivulets united are called a river.

Rivers, being a collection of spring and rain-water, are at least as pure as these; and generally purer when their bed is siliceous sand, and their motion rapid. But, when they flow slugggishly along a clayey bed, they are discoloured by the particles of clay which they hold in suspension. A river moves slowly in a wide and uninterrupted channel, but, when it is confined, its motion is increased, and rapids are formed. In falling from any height, it becomes a cascade, or cataract. When a river, augmented by rain, or the melting of snow, overflows its banks, and inundates the adjacent country, it fertilizes the soil, and in some cases distributes health and plenty, but in others diseases, famine, and death. The largeness of rivers, in general, is in proportion to the elevation of the mountains which cover their sources, and where their tributary streams arise. As their course, for the most part, is in the direction of the great chain of mountains, they run more from east to west, or *vice versa*, than from north to south. The accumulation of sand and gravel carried down from the hills, sometimes fills up the bed of a river, and turns it into a new channel. In hot climates, the river itself, in a long course, gradually diminishes, and at last disappears in the sand. Though rivers occupy the lowest parts of plains, yet their banks are often higher than the neighbouring ground, owing to mud deposited in the time of inundations. They are always widest at their mouths, and narrow gradually toward their sources. At great distances from the sea, their

their course is generally straight; and the frequency of their windings increases as they approach to their termination. All the rivers of note will be traced from their sources, and described in the sequel of this work.

With regard to the quantity of water discharged by rivers into the sea, no accurate estimate can be made; but the following appears to be plausible. Take any one river, the Po for example, which is 100 perches of Bologna, or 1000 feet in breadth, 10 feet in depth, and its course at the rate of four miles in an hour. This river discharges into the sea 200,000 cubic perches each hour, or 4,800,000 in a day. A cubic mile contains 125,000,000 cubic perches. The Po, therefore, in 26 days, will discharge a cubic mile of water into the sea. Next, let it be supposed, that the quantity of water which the sea receives from the rivers in any country, is in proportion to the extent of that country; consequently, the country watered by the Po, and its tributary streams, is to the total surface of dry-land on the globe, as the Po is to all the rivers of the earth. Now, the Po traverses a country 380 miles long, and the rivers which fall into it originate from sources 60 miles distant from it on either hand. The Po, therefore, and the rivers it receives, water a country of 45,600 square miles. Estimating the superficies of dry land to be about 42,745,253 square miles, it follows, that the quantity of water discharged by all the rivers in the world in one day, is 36 cubic miles, and in a year 13,140. If the sea is supposed to contain 32,058,939.75 cubic miles of water, it would take all the rivers in the world 2440 years to discharge an equal quantity.

Fountains and Wells are impregnated with various substances, through which their streams pass in their way to their springs. Hence well-water is sometimes hard, and will not dissolve soap, on account of the great proportion of earthy salts it holds in solution. Waters distinguished by a peculiar smell, taste, or colour, are called mineral waters; which

which are sometimes hot, and sometimes of the temperature of the soil. Many of these fountains were resorted to in the early ages, and used externally, or internally, in the cure of certain diseases. But, until the conclusion of the xviith century, no attempt was made to analyze these waters, and to discover the ingredients of which they were composed. The substances hitherto found in them, amounting to about 38, may be reduced under the four following heads. 1. Air, and its component parts. 2. Acids. 3. Alkalies and earths. 4. Salts. In most mineral waters there is usually some predominant substance, which stamps, as it were, their character, and imparts to them those properties by which they are most readily distinguished. Accordingly, they have been divided into four classes, viz. I. Acidulous. 2. Chalybeate. 3. Hepatic or sulphureous. 4. Saline. The first contains a considerable proportion of carbonic acid, and are known by their acid taste. The second contains a portion of iron, and produces a black with an infusion of nutgalls. The third, impregnated with hydrogen gas, has a sulphureous odour, and blackens silver and lead. The fourth contains salts in solution, some of which have a bitter taste and are purgative; others turn vegetable blues into green.—To determine the proportion of the ingredients in mineral waters belongs to the chemist.

With regard to hot fountains, as the waters of Buxton and Bristol in England, of Aix-la-chapelle in Germany, and of Baiæ in Italy, whose heat is derived from subterraneous fire, some contain nothing of a gross mineral, while others are impregnated with some of the ingredients already mentioned, and thereby discover their nature. The most remarkable hot springs are in Iceland.

Lakes are inland collections of water, supplied by melted snow or rain, and dried up in summer, or by springs at bottom, or by streams running into them. Many lakes both receive and discharge rivers; some neither receive nor discharge them; some receive them but discharge none;

none; and some, though they receive no river, yet send forth copious streams.

The water of lakes is, for most part, purer than that of rivers. But as they are often stagnant, the water, in that case, must be contaminated by the remains of animals and vegetable bodies which have undergone putrefaction in it.

Marsh-water, being altogether stagnant, contains a still greater proportion of animal and vegetable remains. Small pools abound in impurities.

All lakes that give rise to rivers are fresh; but almost all those which receive rivers, and emit none, are salt. Lakes, which neither receive nor discharge rivers, are either salt or fresh according to their origin. Those in the vicinity of the sea are commonly salt; and most of those at a distance from it are fresh. The waters of that extensive lake called the Dead Sea, contain a large proportion of bitumen, or asphaltes; hence it is distinguished by the name of the Asphaltic Lake.

Lakes are gradually filling up by earth, sand, and gravel, washed down from the adjacent heights, and carried into them by the streams they receive. From this cause, meadows of alluvial soil are commonly found at the upper end of lakes, and at the mouths of rivers.

THE SEA.

The *Sea*, or *Ocean*, is an immense body of water, which surrounds both the Old and New Continents, and covers three-fourths of the globe. It is divided by geographers into different seas, which are defined by imaginary boundaries, and distinguished by appellations derived from the adjacent continents, or from particular appearances. The Western or Atlantic Ocean, the Northern or Frozen Ocean, the Pacific and Indian Oceans, are designations

designations familiar to every reader, though the limits of each are not precisely known. To the inland parts of the ocean specifying epithets are likewise applied; as, the Persian Gulf, the Red Sea, the Mediterranean, the Baltic, &c.

The dimensions of the ocean, and its proportion to land, cannot be exactly ascertained, on account of the want of proper instruments for that purpose. It has never been sounded to a greater depth than a mile and sixty-six feet; so that every thing beyond this extent is conjecture. Its mean depth has been computed a quarter of a mile, or about 1300 feet. At a distance from any coast, the depth, for the most part, increases or decreases gradually; but near the shore it is more frequently and more suddenly varied: on a bold coast, it is in proportion to the elevation of the adjacent land. High cliffs generally indicate deep water, and on low coasts the water is commonly shallow.

The bottom of the sea is of the same nature with terra firma, being only a continuation of it: accordingly, in the sea are found mountains, rocks, caverns, vallies, plains, sandbanks, ores and stones, springs, vegetables, and animals. Some philosophers are of opinion that the sea has two different bottoms, the one covering the other at intervals, viz. the ancient and permanent, which may be called the general bottom, and the accidental or particular bottom. The former is composed of the same strata which are found in the bowels of the earth, such as marl, stone, clay, sand, shells deposited horizontally. The latter consists of fragments of shells, sea-plants, pyrites, stones rounded by friction, coloured sands, slime, &c. These bodies, washed down from the hills, plains, and beaches, are disseminated by the currents and agitation of the waters, and seldom cover the general bottom, which is found by sounding often in the same regions.

With respect to the temperature of the sea, it has been said, that the water is colder in proportion to its depth; but of this there is no satisfying

fying proof. It would appear, that the upper part of it, exposed to the influence of the solar rays, is warmer than the lower part in summer, and probably the reverse in winter: so that the lower region may be always of the same temperature nearly, which is above congelation. If water be most dense at 39 or 40 degrees of Fahrenheit, *this* may be fairly presumed to be its mean temperature at the bottom of the sea. The temperature of small seas is influenced by the adjacent land, the height of the mountains, and other circumstances.

That the sea has encroached on some tracts of land, and retired from others, is certain. Of this, many presumptions and proofs might be mentioned. The Maldiva and Lacdiva islands, it is highly probable, made once a part of the great peninsule of India. The islands of Ceylon and Madagascar, according to the popular tradition of their inhabitants, were united to the adjacent continents. The rocks and shoals interspersed between Sumatra and the continent, indicate their former union. Sunda, the Moluccas, and the Philippine Islands, are the debris of countries overturned; and the sea westward from these islands seems to be a recent and accidental production. The encroachments of the sea may be likewise traced in many parts of Europe. Great Britain appears to have been anciently joined to France, and Sicily to the extremity of Italy. In the reign of Henry I. the estates of Earl Godwin were swallowed up; and in their place the bank, now called Godwin Sands, was formed. In 1546, a similar irruption happened in the territory of Dort; and great depredations were committed in Friesland, Zealand, and on other parts of the coast of Holland. The gulf, called the Zuyder Sea, was formerly an inhabited country, with a small marsh or lake in its centre. The Baltic has overflowed part of Pomerania; and the Norwegian Sea is gradually advancing upon the continent. In one period these inroads are by degrees, and almost imperceptible, and in another whole provinces are at once swallowed up. In some parts the sea has retired,

retired, and new lands have appeared. Lower Egypt was anciently a gulf; and Homer observes, that the island of Pharos was one day's sailing from the coast, to which it is now contiguous. Damietta, A. D. 1243, was a port-town; but since that period the sea has retired several leagues. Many acquisitions of this nature may be traced on the coasts of France, England, Holland, Germany, and Prussia. The city of Tongres, in the county of Liege, was anciently a sea-port, though, at present it be 35 leagues from the coast. Ravenna once stood on the shore of the Adriatic; Saintonge was covered by the sea; and Aunis is one of the most recent territories in France. A considerable part of the east coast of Great Britain was anciently under water, and the marks of the sea-beach may be traced far beyond the present limits of the tide. Whether these changes are owing to the depression of the sea, or the elevation of the land, is not yet fully ascertained. But for further information on this subject, the reader is referred to Professor Playfair's ingenious and elegant illustrations of the Huttonian theory of the earth, p. 441.

Sea-water is as transparent as river-water: the various appearances, therefore, which it assumes must be owing to accidental causes, as the wind, the clouds, the sun, &c. It is impregnated with ingredients of the saline kind, as common salt, a compound muriatic acid and magnesia, and gypsum or a compound of sulphuric acid and lime. The proportion in 100 parts of these ingredients, in sea-water at the Cape of Good Hope, are, 33 of the first, 9 of the second, and 1 of the third. These salts are either found at the bottom of the ocean, or washed down by the rivers from various strata, and accumulated in the sea; or, which is the simplest and most probable hypothesis, the sea has been salt from the creation. At the surface the water contains less salt than near the bottom; but the difference is inconsiderable. Its saltness is greatest in the torrid zone, and diminishes towards the poles, owing to great quantities

of snow, and large rivers which fall into those seas, and to the proportional defect of evaporation. The deficiency of salt in the polar regions contributes essentially towards the immense masses of ice in those seas.

By perpetual fluctuation the sea is preserved from corruption. In this vast assemblage of waters there is a threefold motion. 1. That occasioned by wind, which affects the surface only, and may be calmed by oil. 2. The continual tendency which the whole water in the sea has towards the west, and which is greatest near the equator. It begins on the west side of America, and is accelerated as the water advances westward. Having traversed the whole globe, it strikes with violence on the east coast of America. Turning northward along that coast, it runs impetuously into the Mexican Gulf, and proceeds north as far as the bank of Newfoundland. 3. The third motion of the sea is that of its *tides*, which flow and ebb alternately in the space of 24 hours, being regulated by the course of the moon. This motion is most sensibly discerned at the time of new and full moon, in spring and in autumn, when the wind blows in the direction of the tides; and in all straits and narrow channels which lie from east to west, as the straits of Sumatra, the English Channel, the strait of Magellan, &c. In the torrid zone, the tides are generally higher than in other parts of the globe; the sea, in that region, being deeper and less obstructed in its motions. At the mouth of the Indus the tide rises 30 feet perpendicular. It is also very considerable near Malaya, in the straits of Sunda, in the Red Sea, in the gulf of Bengal, on the coasts of China, Japan, &c. At Tonquin there is but one flux, and one reflux of the sea in 24 hours; and when the moon approaches the equinoctial there is no tide at all. These singular appearances are owing to the concurrence of two tides, the one of which flows from the South Sea, and the other from the Indian Ocean.

Beside the motions already mentioned, there are others called *currents*, peculiar to many parts of the sea, and owing to the prominence of shores, the

the narrowness of straits, inequalities at the bottom, variations of the wind, and in general whatever agitates the waters. These streams are observed in all seas, and are of different degrees of extent and velocity. On the coast of Guinea their motion is very rapid, and contrary to that of the tides. There are strong currents near Sumatra, between Madagascar and the Cape of Good Hope, and on the west coast of America. On the Norwegian coast, between the islands of Tofode and Woeroen, there is a powerful current; and another sets out of the Baltic, through the strait between Sweden and Denmark, into the British Channel. But the most remarkable currents are those flowing into the Mediterranean from the Euxine Sea, by the strait of Constantinople, and from the ocean by the strait of Gibraltar. To dispose of this vast accession of waters, some naturalists have supposed an under current through the latter of these straits to carry out as much water into the ocean as the upper current continually carries in from it. These double currents have been observed in many other parts of the sea.

When a regular current is opposed by another in a narrow strait, or where the bottom of the sea is very uneven, a whirlpool is often formed. These were formerly considered as the most formidable obstructions to navigation. Charybdis was a terrour to ancient mariners, as the Maelstroom, near the coast of Norway, is to modern navigators. This vortex is 13 miles in circuit. In the midst of it stands a rock against which the tide in its ebb is dashed with great violence. At this time it swallows up all things that come within its vortex. When a ship is entangled in the circles of this whirlpool, no exertion nor skill of the mariner can preserve it from destruction.

THE EXTERIOR OCEAN.

THE immense body of water which covers so great a proportion of the globe is commonly divided into the *exterior* and *interior* seas. The four exterior seas are the Northern Sea, the Atlantic, the Indian Sea, and the Great South Sea, or Pacific Ocean.

1. The *Northern* or *Frozen Sea*, mare Hyperboreum, extends from 52° or 53° N. latitude to the polar region. Between the eastern coasts of Great Britain and the coasts of Denmark and Norway, northward to the Shetland Islands, it forms a gulf called the German Sea, *Mare Germanicum.* At the southern extremity of Norway, an arm of that sea almost environs Denmark. Stretching east and north-east it is called the Baltic, Mar de Belt, and extends from south to north 300 leagues, including the gulf of Bothnia. The small gulfs of Finland and Livonia lie to the eastward; and the former, by means of the Ladoga and Onega Lakes, has a communication with the White Sea. These gulfs receive the Oder, the Vistula, the Niemen, and the Dwina, together with many rivers which descend from Lapland and Sweden, Finland and Livonia. An inland gulf, eastward from Russian Lapland, is called the White Sea, into which twelve or thirteen considerable rivers discharge themselves. At the north-west extremity of Russia, the strait of Waygatz, in 70° N. latitude, was long considered by geographers as a passage into the sea, or gulf, that lies eastward along the coast of Grand Tartary: but the navigation of this strait is now found to be impracticable, on account of the shoals of ice floating in those parts. To pass into the Eastern Ocean by the north of Nova Zembla is equally impossible, because an immense field of ice precludes all access, in this way, from Europe to the East Indies.

From

From North Cape in Lapland the Frozen Sea stretches westward along the coast of Greenland. Repelled by the coast of Labrador, it turns northward to form an immense gulf, large tracts of which are distinguished by different names, as Hudson's Bay, Davis's Strait, and Baffin's Bay.

The distance between North Cape and the north-east extremity of Tartary is about 155 degrees, or 3300 English miles. A line from that extremity across the Caspian and Red Seas to the Cape of Good Hope, M. Buffon observes, is about 3600 Parisian leagues; and no other line of equal extent is to be found in the old continent. From North Cape to the south extremity of Africa are 2500 leagues.

2. The *Indian Sea* extends from the African coast eastward to the New Philippine Islands, and the eastern coasts of New Guinea and New Holland, bounded on the north by Asia, and on the south by the frozen region towards the pole. From the mouth of the Arabian Gulf to the Cape of Good Hope the coast inclines south-west without any remarkable gulf or bay.

Between the coasts of Africa and Malabar lies *Mare Erythræum*, the Red Sea, by the Turks called the sea of Mecca, that has four arms or gulfs. 1. The Red Sea, or Arabian Gulf, properly so called, which extends about 600 leagues north north-west from the island of Socotora, and receives its name from the colour of the rocks along the coast. 2. The Persian Gulf, between Arabia and Persia. 3. The gulf of Indus, or Scindi, at the mouth of a cognominal river. 4. The gulf of Cambaia on the coast of Guzarat.

Beyond the peninsule of India, are the gulfs of Bengal, Siam, Tonquin, Coree, and Japan. From China, the coast inclines north-east and north to the extremity of Tartary, or Beering's Strait; and the adjacent sea is distinguished by the general appellations of the sea of Japan, and of Ochutsk. That coast, it has been conjectured, anciently extended southward from Kamtschatka to New Holland; but, in process of time, the Pacific

Pacific Ocean, by its constant progress from east to west, has gained upon it, and left no traces of that part of the continent, some mountains and elevated tracts excepted, which now form small islands.

3. The *South Sea*, or *Pacific Ocean*, is bounded on the west by New Holland and the New Philippine Isles, on the north and east by Beering's Strait and the American continent, on the south by the frozen region towards the pole. Southward of the equator it is diversified with numerous groups of islands, many of which have been recently explored.

4. The *Atlantic Sea* was anciently called *Æquor* or *Mare Atlanticum*, from Atlas a group of mountains on the western coast of Mauritania; *Mare Magnum*, from its vast dimensions; and *Mare Tenebrosum*, *i. e.* the dark and stormy sea. Several divisions of it along the coast are distinguished by particular appellations hereafter mentioned. It is bounded on the east by Africa and Europe, and on the west by America. That part of it which lies south of the equator is commonly called the South Sea.

The western coast of Africa, from the Cape of Good Hope north to Cape Negro, has no inflexions or sinuations. Between Cape Gonzalvez and Cape Tres Puntas there is an open gulf. From the equinoctial line the Atlantic extends along the coasts of Africa, Portugal, Spain, France, and Germany to about 52° N. latitude. Between the north coast of Spain and Bretagne, *i. e.* between Cape Ortegal and the isle of Ouessant near Brest, lies the Bay of Biscay, which is sometimes by geographers subdivided into three parts. 1. *Calaicus Oceanus* reaches from Cape Finisterre to *Promontorium Sythicum*, Cape de las Penas. 2. *Cantabricus Sinus* from Cape Penas to Bayonne. 3. *Mare Aquitanicum*, or sea of Guyenne, from Bayonne to Brest. From Ouessant to the mouth of the Rhine, or to the Texel, a strait is formed between England and France, called the British Channel. A small gulf inland from the Texel is called

ed Zuyder Zee. On the eastern coast of the American continent, the Atlantic forms the gulf of Mexico.

INLAND SEAS.

I. THE MEDITERRANEAN, called by the Greeks *Mare Internum*, and by the Jews, *Mare Magnum*, is a vast gulf of the Atlantic Ocean, with which it has a communication by a narrow strait at the southern extremity of Spain, and is bounded on the south by Africa, and on the north by Spain, France, Italy, European Turkey, and Asia Minor.

Its length from the Strait of Gibraltar to the coast of Syria, is computed to be 2300 miles, and its breadth in some places 900, in others not 300 miles.

The appellations of particular parts and subdivisions of this sea are derived chiefly from the territories by which it is bounded, and are as follows :——

1. *Mare Sardoum* extends from Gibraltar to Sardinia, and comprehends :
   1. *Virgitanus Sinus*, Gulf of Carthagena, between *Charidemum Prom.* Cape de Gates, and *Scombraria Prom.* Cape Palos.
   2. *Illicitanus Sinus*, Alicant Bay, between Scombraria Prom. and *Dianium Prom.* Cape Martini.
   3. *Sucronensis Sinus*, Gulf of Valenza, between Dianium Prom. and Lunarium Prom. near the mouth of the River Idubeda.
   4. *Ibericus Sinus*, opposite to the mouth of Iberus fluvius the Ebro, and eastward to *Prom. Pyrenæum*, Cape Creux.
   5. *Sardoum Proprium*, extended from Insulæ Baleares to Sardinia.

   N. B. The tract of sea along the east coast of Spain, between Prom. Charidemum and Pyrenæum was sometimes called Mare Balearicum.

2. *Mare Gallicum*, or *Galaticum*, Gulf of Lyons, extending from Prom. Pyrenæum to the river Varus.
3. *Mare Ligusticum*, Gulf of Genoa, from the Varus to the Macra, or Arno. A small part of this gulf, in the vicinity of Corsica, was called Cyrnium.
4. *Tyrrhenum Mare*, also called Tuscum, and Inferum, stretched along the western coast of Italy, from the river Arno to the straits of Sicily.
5. *Ionium*, from the straits of Sicily to the southern extremity of Greece. Its subdivisions are the following:
   1. *Ausonium*, from the straits, along the south coast of Italy to *Prom. Japygium*, now Capo di S. Maria di Leuca, in Calabria.
   2. *Adriaticum*, or *Mare Superum*, Gulf of Venice, a large bay bounded on the west by Italy, and on the east by Illyricum, now Sclavonia and Dalmatia.
   3. *Ionium Proprium*, from Japygium Prom. to Tænarium Prom. in Greece, comprehends:
      1. *Rizonius Sinus*, Gulf of Cataro, between Corcyra and Rizana.
      2. *Ambracius Sinus*, Gulf of Larta, at the southern extremity of Epirus.
      3. *Corinthiacus Sinus*, also called Crisseus and Alcyonius, Gulf of Patras and Lepanto, the northern boundary of Peloponnesus.
      4. *Chelonites Sinus*, a small bay, now called the Gulf of Arcadia, on the western coast of Peloponnesus, opposite to the mouth of the river Alphœus.
      5. *Cyparissus Sinus*, on the western coast of Messenia.
      6. *Messeniacus Sinus*, Gulf of Coron, from *Acritas Prom.* Cape Gallo to *Prom. Tænarium*, Cape Matapan.
6. *Mare Ægæum*, also called Caricum, Minoium, Græcum, Melas, Argolicum, now the Archipelago, extends from Prom. Tænarium eastward

eastward to the coast of Asia Minor, and southward to Crete. It was anciently subdivided as follows :

1. *Mare Creticum*, between Prom. Tænarium and Scyllæum, and the northern coast of Crete.
2. *Laconicus Sinus*, between Prom. Taenarium and Prom. Mallea, now Cape Malio.
3. *Argolicus*, or *Hermonicus Sinus*, now the Gulf of Napoli, between Prom. Mallea and Prom. Scyllaeum, the southern extremity of Argolis.
4. *Saronicus Sinus*, Gulf of Engia, between the coast of Argolis and Attica.
5. *Opuntius Sinus*, between Euboea and Achaia.
6. *Maliacus Sinus*, Gulf of Ziton, opposite to the straits of Thermopylae.
7. *Pelasgicus Sinus*, Gulf of Volo, opposite to the northern extremity of Eubœa.

N. B. The sea, stretching along the Attic coast from Prom. Scyllaeum to Thessalia, was sometimes called Mare Myrotum.

7. *Mare Macedonicum*, from Mons Pelius, eastward along the coasts of Macedonia and Thracia, comprehends :
   1. *Thermaicus Sinus*, Gulf of Salonichi, between *Magnesiæ Prom.* Cape Monaster, and *Prom. Canestræum*, Cape Paillouri.
   2. *Toronaicus*, or *Toronæus Sinus*, Gulf of Amiama, from Prom. Canestraeum to *Prom. Ampelum*, Cape Falso.
   3. *Singiticus Sinus*, Gulf de Monte Santo, between Prom. Ampelum and *Prom. Nymphæum*, Cape St George.
   4. *Strymonicus Sinus*, Gulf de Contessa, between *Acro Athon Prom.* Cape de Monte Santo, and the mouth of the Nestus, Cavosou, opposite to the Isle of *Thassus*, Tasso.
   5. *Piericus Sinus*, between the Nestus and *Prom. Serrhium*, Cape Macri.

6. *Melanis Sinus*, Gulf di Candia, opposite to the northern coast of Thracian Chersonesus.

8. *Mare Icarium*, from the Hellespont southward along the coast of Asia Minor. The chief bays of this tract, are:

1. *Elaiticus Sinus*, between Œolis and the Isle of Lesbos, Metilene.
2. *Smyrnæ Sinus*, Bay of Smyrna, opposite to the cognominal city.
3. *Latmicus Sinus*, opposite to Miletus.
4. *Iassicus Sinus*, opposite to Iassius on the coast of Caria.
5. *Ceramicus Sinus*, between the coast of Doris and the Isle of Cos, Stanchio.
6. *Doridis Sinus*, on the south coast of Doris, opposite to Rhodus ins. Isle of Rhodes.

9. *Mare Carpathium*, or Rhodiense, extends from Cnidus, the western extremity of Doris, to Lycia, and contains Glaucus Sinus on the coast ofCa ria.

10. *Mare Lycium*, on the coast of Lycia, a province of Asia.

11. *Pamphylicus Sinus*, opposite to a cognominal province.

12. *Mare Issicum*, or Cilicium, a narrow tract between Cilicia and Cyprus, now called the Gulf de Aiazzo, or Giazza.

13. *Mare Syriacum*, eastward from Cyprus, from Issus to the mouth of the river Corseus.

14. *Mare Phœnicum*, extends along the coast of Phœnicia from the river Corseus to Gaza, near the southern extremity of Syria.

15. *Mare Ionium alterum*, from Gaza to Mons Casius.

16. *Mare Ægyptium*, or harium, from Mons Casius to Alexandria.

17. *Mare Libycum* stretches westward along the coast of Africa to the straits of Gibraltar, and is sometimes called Africanum.

As there is a constant influx of water from the Atlantic and Euxine Seas, and from many considerable rivers, into the Mediterranean, yet no visible discharge, some philosophers have supposed that it has a subterraneous

neous communication with the ocean; but no sign of any such communication has been discovered. Without having recourse, with Buffon, to the sinking of immense caverns, into which the sea has from time to time retired, other causes of the diminution of the Mediterranean may be assigned. It is highly probable that there is a reflux, or lower current, in the Straits of Gibraltar: a considerable quantity of water is incessantly raised into the atmosphere by evaporation: and, though there are no perceptible tides in this sea, except in the gulf of Venice, and on the coast of Tripoli, yet part of it may be converted into earth by the action of the winds as well as by heat.

How far all modern geographers, prior to M. de Lisle, erred in their computations of the length of the Mediterranean, has been already observed (See Hist. of Geogr.). It may be added, that they made no exact estimate of the breadth of this sea. They supposed Carthage to be situated in $33\frac{1}{2}°$, instead of $36\frac{1}{2}°$ N. latitude; and computed the distance thence to Cagliari in Sardinia to be 380 English miles nearly, instead of about 180. Their errors in other places were in proportion great.

No direct communication between the Mediterranean and the Red Sea by a canal appears to be practicable; because the opposite coasts of both are low and marshy, and the intermediate barren plain of 19 leagues is destitute of water. A communication, however, between these seas, might be opened by the medium of the Nile. A canal was anciently formed in this direction, and repeatedly restored. From Cairo it extended to Kolzoum, in the vicinity of Suez; and some vestiges of it still remain. There are several considerable islands in the Mediterranean, viz. Sicily, Sardinia, Corsica, Cyprus, Majorca, &c.

The Strait of Gibraltar is about 14 leagues in length, and 8 in breadth. In navigating this strait three capes occur on either coast. Cape Trafalgar is opposite to Cape Spartel; Tariffa to Alcazar; and Gibraltar to Ceuta. The two last mentioned capes, anciently called *Calpe* and *Abila*, were.

were the Pillars of Hercules; and the strait was distinguished by the appellations Fretum Herculeum, and Fretum Gaditanum, or Strait of Cadiz, from a small island on the coast of Spain.

II. The PROPONTIS, or *Marmara*, is a small tract of sea between the Mediterranean and the Euxine. The latter, from the north-east, sets into it with a strong current through the *Bosphorus Thracius*, or *Mysius*, the Straits of Constantinople, and the surplus of its waters is discharged by the *Hellespontus*, Dardanelles, into the Ægean Sea. It is bounded on the east by Bithynia, and on the west by Thrace; and it contains several islands of no estimation.

III. The EUXINE, Mare Majore, or Black Sea, anciently called Caucasium, Scythicum, Sarmaticum, Cymmerium, Tauricum, Colchicum, &c. has been considered by some geographers as a gulf of the Mediterranean, with which it has a communication by the sea of Marmara. It extends from 47° 50′ to 70° 40′ E. longitude, i. e. 780 English miles; and its mean breadth is $3\frac{1}{2}$ degrees nearly, or 240 miles. It receives many rivers, as the Danube, the Nieper, the Don, the Ermak, the Sangari, &c. The Don forms a lake, or small gulf, on its northern coast, called Palus Meotidæ, or sea of Asaph, 300 by 60 or 70 miles. The south coast was accurately surveyed by the ancients, and is described with great exactness by Arrian in his Periplus.

IV. The CASPIAN SEA,—by the ancients called Mare Caspium, Hyrcanium, Magnum, and Ponticum; by the Moors, Bohar Corsun, Bachu, Giorgian, Teberstan, &c.; by Edrisi, the sea Khosar and Tavisthan; by Persians Derjakulsum; by Armenians Soof; and by Russians Glasenskoi-more;—lies between 37° and 47° N. latitude; its length being 690 miles, and its mean breadth $3\frac{1}{2}$ degrees, or 180 miles. Its superficial contents amount to above 36,000 square miles.

The figure and extent of this sea were unknown to the ancients. Eratosthenes, Strabo, Pliny, and Pomponius Mela, mistaking the mouth of the

the Wolga for a strait, affirmed that it had a communication with the Northern Ocean; and the first of those geographers computed its extent, between the mountains of Media and the place of its efflux, to be 6000 stadia. Arrian was doubtful whether the Caspian was connected with the Euxine Sea, as Quintus Curtius asserts, or with the great Eastern Ocean that surrounds India; but in one passage he appears to be of the latter opinion. In the Theodosian, or, as they are commonly called, the Peutingerian tables, the Caspian Sea is represented as a gulf of the Northern Ocean. All this appears the more extraordinary, that Herodotus had given a just description of the Caspian, near five centuries before the age of Strabo. He says, "it is unconnected with any other sea;—its "length is as much as a vessel with oars can sail in fifteen days, and "its breadth as much as it can sail in eight days." Aristotle, Diodorus Siculus, and Ptolemy concur with him in opinion. Ptolemy, however, has erred in fixing the boundaries of this sea, reckoning its longitude from east to west $23\frac{1}{2}^{\circ}$. The Arabs, in some measure, corrected the error of Ptolemy, and ascribed to the Caspian an oval form, whose longest diameter extends from north to south. The first authentic information, which modern Europeans received concerning its true figure, was given by Anthony Jenkinson, an English merchant, who, with a caravan from Russia, travelled along a considerable part of its coast in 1558. Scaliger and Olearius adopted his account, and recent observations have confirmed it. On this subject the reader may consult an ingenious Memoir, in Mem. de L'Acad. A. D. 1721, which is accompanied with a chart, representing the different forms attributed to that sea by geographers in different periods.

If we should suppose the Caspian Sea to have been originally united to the lake Aral, now about 100 leagues to the eastward, the opinion of the ancients concerning its form would not appear to be destitute of some foundation. The sandy deserts which lie northward between the

Jaik,

Jaik, Wolga, and Don, are every way surrounded with an elevated border, of a soil very different from that of the deserts. The latter principally consists of a pure sand mixed with shells and slime, and a yellowish clay, without the least vestige of turf, or any strata of mineral earths; whereas, in the former, the saline quality of the ground disappears, and the surface is covered with a thick turf, and a layer of black mould of some depth, without any traces of the marine productions peculiar to the Caspian Sea. In the deserts are innumerable flats, and lakes of salt water. The high grounds form a ridge considerably elevated, describing a number of bays and promontories. These circumstances give rise to very probable conjectures concerning the ancient state of those barren plains, and the communication that may have subsisted between Aral Lake and the Caspian and Euxine Seas, in some remote period of time.

It is, perhaps, impossible to determine, by what natural event the Caspian Sea, which receives, from the rivers that enter it, a body of water nearly equal to what it loses by evaporation, could have suffered so great a diminution at one time, as to leave dry a space of country more than fifteen fathoms higher than the actual bed of that sea, and of so vast an extent as the plains reaching from the lower Don to the Jaik, and thence to the lake Aral, and behind this lake towards the Ural Mountains, which are a branch or southern prolongation of the Moguldsharian Chain. Perhaps, as Tournefort conjectures, the mountains of the Thracian Bosphorus were originally in perfect contact, and formed a barrier between the Euxine and the Mediterranean. On this supposition, the former of these seas, which received into it such great rivers as the Danube, the Dniester, the Nieper, the Don and the Kuban, covered the level plains above mentioned, insomuch that its surface was of far greater height than that of the Mediterranean and the Ocean: but a rupture in the mountains which joined Europe to Asia at the Bosphorus,

phorus, occasioned by an earthquake or subterranean explosion, opened a passage for the waters of the Euxine, which rushed with impetuosity into the Mediterranean to gain its level, so as to overflow a part of Greece and the Archipelagian islands. The gradual depression of the Euxine by this efflux of its waters, converted the shallow parts of its bed into salt deserts; and the Caspian Sea, formerly joined to it by a strait of little depth, assumed the appearance of a great lake, whose communication with the lake Aral likewise ceased. That which before was banks of sand under water, was changed into flying sand, which rose in eminences similar to those now found towards the lower Wolga; what had formerly been islands were now small mountains on the bottom of this dried flat; and the deeper parts remained salt lakes dispersed in the deserts.

The Aras, Wolga, Jaik, Jembo, and many other rivers, flow into the Caspian, on the north and west coasts; but, notwithstanding this constant supply of water, without any visible efflux, it is not sensibly increased. On the contrary, there is some reason to suppose that it gradually diminishes; and this effect may be occasioned by the disproportion between the body of water that flows into it and what it loses by evaporation.

There are several small islands in this sea, with variety of shoals and banks of sand below the surface of the water, which render the navigation of it with large vessels altogether impracticable. The depth along the west and south coasts is from three to sixteen or seventeen fathoms; but many places towards the middle are from fifty to seventy.

That there is no communication whatever between this sea and the ocean, is evident from the answers of the Academy of Petersburg to the queries of M. Buffon on this subject. By these we are informed that there are no vortices in it, nor appearances of a subterraneous communi-

cation, and that it contains neither oysters nor any other sea-shells, but such species only as are found in rivers.

On the western coast there is no port, except Bachu in Schirvan; and that is only for small vessels. The best road, or anchoring place, on that coast, is opposite to Terki; and the only good port on the eastern coast is that of Mankischlack, about two degrees to the southward of the mouth of the river Jembo.

V. The BALTIC may be reckoned an Inland Sea, that opens from the German Ocean, by an inlet pointing N. E. called the Skager Rack, and afterwards passing S. in what is called the Cattegat to the Sound of Elsinore, a narrow entrance, or strait, where vessels pay tribute to Denmark. Thence the Baltic extends east, and north east, in 60° N. latitude, dividing into two branches, called the gulfs of Bothnia and Finland; the former reaching northward about 100, and the latter eastward 70, leagues. Both of these gulfs are covered, or interrupted, by ice, during four or five months in winter. The greatest depth of the Baltic is said not to exceed 50 fathoms, and its shallowness gradually increases at the rate of 40 inches in a century. Tides are there unknown; and the waves are not of such magnitude as those of the German Ocean; but, rising more abruptly, and in greater numbers, they are sometimes turbulent and dangerous. When violently agitated, this sea throws up, on the coasts of Courland and Prussia, amber in considerable quantities. In several places the variation of the magnetic needle is remarkable. In one place particularly, it points between the south-west and west; and in another it points to the north-west. The water of the Baltic is not very salt, on account of the many rivers which discharge themselves into it. Some physiologists assert, that it does not contain more than $\frac{1}{30}$ part of salt; whereas other sea-water often holds $\frac{2}{30}$ parts.

OF

OF ANCIENT AND MODERN

LINEAL AND ITINERARY MEASURES.

In the study of ancient history and geography, an acquaintance with longitudinal measures is essentially necessary. Without accurate information on this subject, it would be impossible to understand the routes of armies, the details of voyages, and the distances of places which were scenes of the most memorable transactions and events; nor could any precise idea be formed of the extent of kingdoms and empires, or of their subdivisions, or the dimensions of their cities, towns, and most remarkable edifices. To this subject many learned men have directed their attention. The proportion between the various measures of Greeks, Romans, and barbarous nations, has been ascertained; but the relation of those measures to a modern standard has not, in many instances, been accurately stated; and some writers, who have attempted to determine this relation, have proceeded on hypotheses whose results are inadmissable. Having endeavoured in vain to obviate seeming inconsistencies and contradictions in accounts of several ancient measures, I shall, on authorities the most approved, state the proportion which the most noted measures of the ancients hold to those that are modern. This subject is amply treated by Riccioli (Geogr. reform. p. 31.); Martiniere (Dict. art. Mesures); Freret (Mem. de Litterature, tom. xxiv.); Danville (Mes. itiner.); Arbuthnot (Tables of ancient Measures); Bailly (Hist. Mod. Astron.); Paucton (Metrologie); to whom the reader, desirous of particular information, is referred.

Jewish Measures of Length.

THAT the Jews used Egyptian measures seems highly probable. 1. They had sojourned in Egypt, in a state of servitude, about 200 years; and consequently, in all appearance, had no measures of their own. 2. Joseph, during his regency, is supposed to have constructed the Nilometrion. 3. The Jewish cubit is divided into six palms, after the manner of the Egyptians. That the inhabitants of Egypt ever changed their measures, there is no ground to conjecture. The Nilometrion being divided into cubits, to indicate the increase of the height of the Nile, the people, who judged of the fertility of the soil by the height of that river, would not, or could not, change the standard measure by which this height was ascertained. That the nations who conquered Egypt, did not introduce their own measures, is obvious from this circumstance, that the Babylonian cubit of 5 palms is much shorter than the Egyptian cubit; so likewise is the cubit of the Greeks and Romans; and the Turkish pike is much longer than the Cairo cubit. If the ancient Jewish cubit, or ammah, was the same with the royal Egyptian cubit, and with the present cubit of Cairo, it was equal to 21.888 English inches, and was divided into 6 palms, each of which consisted of 4 digits. A foot contained $\frac{2}{3}$ cubit, or 16 digits, and was divided into 12 equal parts.

Besides the sacred cubit, or cubit of the sanctuary, the Jews sometimes used a profane, or common cubit, equal nearly to the English cubit of 18 inches. Their mile they received from the Romans; but, during their captivity in Chaldæa, they used an eastern mile. The Sabbath day's journey consisted of 2000 cubits. A day's journey, and a day's sailing of a ship, are uncertain measures among all nations.

Hebrew

Hebrew longitudinal Measures reduced to English feet, inches, and decimals of an inch.

	F.	In.	Dec.
Digit, the lineal measure of 6 mean barley grains placed laterally	—	—	912
Palm, Hebrew thopach, Chaldean posca, Arabic chabda, 4 digits	—	3	648
Span, zerath, 3 palms, 12 digits	—	10	944
Foot, 16 digits, $\frac{4}{5}$ cubit	1	2	59
Great cubit, the sacred cubit, or cubit of the sanctuary, the standard cubit on the Nilometer of Egypt, Hebrew ammah, 6 palms, 24 digits	1	9	888
The common Hebrew cubit, differing from the English cubit of 18 inches by $\frac{88}{100}$ inch	1	5	82
N. B. If this cubit contained 20 digits, it is equal to	1	6	24
The old Egyptian cubit, according to Dr Arbuthnot	1	8	79
Hebrew kaneh, 5 sacred cubits	9	1	44
Kebrah, 50 sacred cubits	91	2	40
Chebel, 30 sacred cubits	54	8	4
Orgyia, 3 sacred cubits	5	5	8
Fathom, 24 palms, 96 digits	7	3	552
Ezekiel's reed, $1\frac{1}{2}$ fathom, 12 spans, 36 palms, 144 digits	10	11	328
Stadium, 400 cubits	729	7	2
A Sabbath day's journey, 2000 cubits, an Hebrew mile, the distance between the ark of the covenant and the camp of the Israelites	3648	—	—
N. B. An Hebrew mile, according to Danville, contains 3652 English feet.			
Parasang, 30 stadia, 12000 cubits	21888	—	—
A day's journey, 240 stadia, 96000	33 Engl. miles, and	864	— —
An Eastern mile	1	mile, and	2016 — —
N. B. If this mile consisted of 4000 common Jewish cubits, it was equal to 1 English mile, and		660	— —

Egyptian,

Egyptian, Persian, and Arabian Measures of Length, reduced to English feet, &c.

THE Egyptians, Persians, and Arabians, in all ages, have computed distance by the digit, the palm, the foot, the cubit, the stadium, the mile, the parasang, the schœnus, the station, and the cursus.

The cubit was the measure to which all others were referred. To ascertain the length of the most ancient Egyptian cubit, it has been conjectured, with some degree of probability, that the architect of the greatest pyramid, fixed its dimensions in round numbers, making each of its sides 400 cubits. By the measurement of Greaves, one side of the square base is 693 English feet; so that the cubit of Memphis must have been 1.7325 English foot, and was to the present Cairo cubit as 19 to 20. The great cubit, Chaldæan ammetha, Arabic derah drah, Persian aris, Modern Oriental pic, was the standard cubit of the Nilometer. The original Arabian cubit was the same with the common Hebrew cubit, and the royal cubit of Babylon, containing 24 digits. Other cubits were in use among the Arabs. Their astronomers generally employed one of 27 digits. The cubit of land-surveyors contained $25\frac{2}{3}$ digits; that of Bagdat $26\frac{1}{3}$; and that of Belali $29\frac{1}{3}$. The royal Persian cubit was equal to 32 digits.

The Persian, or small Egyptian stadium, also called the nautical stadium, consisted of 300 great cubits. According to the computation of Herodotus, it contained 600 Grecian feet, $666\frac{2}{3}$ of which are equal to 68·8 English miles, or one degree of a great circle nearly. This stadium is mentioned by St Luke, Chap. XXIV. 13. and was used by Xenophon. The circuit of the walls of Babylon, it is said, contained 480 of those stadia. But Xenophon sometimes used a stadium of 484 of English feet, or $\frac{1}{10}$ of a Roman mile.

The great Egyptian, Phœnician, and Asiatic stadium, the same with that measured by M. Smith at Laodicæa, consisted of 400 sacred cubits,

or

or 600 Phileterean feet. Five hundred of these stadia are equal to 69 English miles and 330 feet. The stadium, called Vatavan and Aspareze, mentioned by Moses Chorenus, was the same with the Persian stadium, and equal to 547 English feet. The ancients sometimes used stadia different from those already expressed, as appears by various computations of the earth's circumference.

A Persian, Egyptian, Armenian, Syrian mile, consisted of 10 Persian stadia, 3000 sacred cubits, and 96,000 digits. Alfragan and Abulfeda observe, that this mile was employed by Almamoun in the mensuration of a degree. If M. Paucton's correction (Metrologie, p. 123.) be admitted, $66\frac{2}{3}$ of those miles are equal to something more than 68 English miles.

The parasang, or farsanc, of Herodotus, Strabo, and Moses Chorenus, by Turks called Agash, and sometimes by Persian geographers Schoenus, contained 30 Persian stadia, 3 Persian miles, and 9000 great cubits. The parasang, used by Greek and Latin writers, was not always of the same extent, for we find parasangs of 30, 40, 60, and 120 stadia.

A schoenus of Thebais, or Upper Egypt, was composed of 60 Persian stadia, or 18000 great cubits. A schoenus of Heptanomis, or middle Egypt, contained 90 Egyptian stadia; and a schoenus in the Delta was equal to 30 Egyptian stadia, or 4 Persian miles. Herodotus has not attended to this diversity.

Diaeta, or day's journey, a measure of no precise amount, sometimes consisted of 5 schoeni of Thebais, 30 Persian and 32 English miles nearly. Abulfeda reckons a station to be 8 parasangs, from which computation Albirunius deducts one fifth, on account of the inequality of the earth's surface.

A day's march of an army was reckoned by Lactantius (De Morte, c. 45.). about 18 miles; and by Herodotus 19 miles nearly.

A stathmos, or mansion, was a measure of no fixed proportion. Stations were anciently placed on highways, for the accommodation of travellers, resembling modern post-houses, distant from one another about 4 parasangs. The interval between every two Roman stations in Asia was equal to 2 parasangs, or 60 small Egyptian stadia.

Cursus, or the way of a ship in the space of 24 hours, was sometimes computed to be 100 Roman miles, and sometimes 60. By Herodotus it is estimated 1300 nautical stadia, i. e. 134.7 English miles; by Ptolemy 1000 great stadia, or 138.07 miles; by El-Edrisi and Abulfeda, 100 miles. The progress of a vessel navigated by oars was at the rate of about 10 leagues a-day.

Egyptian, Persian, and Arabian Measures.

	F.	*In.*	*Dec.*
Digit, $\frac{1}{24}$ of an ancient cubit	—	—	681
Palm, 4 digits	—	2	736
Royal Egyptian, or Phileterean foot	1	2	6
Ancient Egyptian cubit, or cubit of Memphis	1	8	79
Great Egyptian cubit, 32 digits	1	9	83
Great Asiatic and Egyptian Stadium, 400 great cubits, 600 Phileterean feet	729	4	—
Common Arabian cubit, 24 digits	1	4	416
Cubit of 27 digits sometimes used by Arabs	1	6	468
Small Egyptian stadium, 300 great cubits, a Persian stadium	547	2	4
Persian and Egyptian mile, 4000 common cubits	5472	—	—
Eastern mile, 7296 English feet — 1 mile and	2016	—	—
Parasang of Herodotus, Strabo, &c. 3 Persian miles, 12000 common cubits	16416	—	—
Egyptian schœnus, 2 parasangs 60 Persian stadia	32832	—	—
Schœnus in the Delta, 30 great Egyptian, 4 Persian miles	21888	—	—
Mean station, 8 parasangs, 24 Persian miles — 25 miles and	1328	—	—

Grecian

Grecian Measures of Length.

THE longitudinal measures of the Greeks were about 16 in number, and commonly taken from the members of a human body. A *digit*, or finger's breadth, was the 4th part of a palm. *Lichas*, a measure of 10 fingers, or the space betwixt the thumb and extremity of the middle finger. *Spithamé*, the length of the hand extended betwixt the extremities of the thumb and little finger, equal to 12 digits. The foot was divided into 4 palms, 12 inches, and 16 digits, and was to the Roman foot as 25 to 24. The Greeks, in general, used two sorts of cubits, a larger and a less; the former containing 24, and the latter 18 digits. But Herodotus mentions a cubit equal to the Phileterean foot. This author seems to have employed cubits of different lengths. Treating of Babylon, he remarks that the Greek cubit, to which he refers, is universally used in Greece. He also observes, that 100 orgyæ make a stadium of 600 feet, and that an orgya contains 4 cubits of 6 palms each. All these, he says, are legal measures. The Greek cubit, in Polybius's time, was $\frac{1}{8}$ longer than the ancient one, so that 14 of the former were equal to 16 of the latter. The different sorts of cubits used in Greece occasioned confusion, the one being sometimes mistaken by authors for another.

The stadium was the longest measure of the Greeks. It was divided into 100 orgyæ, or paces, of 4 cubits each, and into 6 plethra of 100 feet each. The Athenian stadium was 630 English feet. Suidas, a Greek author, mentions 3 stadia, viz. one of 600 Grecian, or 625 Roman feet; 8 of which composed a mile; of another $7\frac{1}{2}$, and of a third 7 were contained in a Roman mile; so that these stadia were in the proportion of 16, 15, and 14. Pliny informs us, that the Greek stadium of 600 feet, contained 625 Roman feet; and, in converting stadia into Roman miles, he reckons 8 to a mile. In some parts of his work, how-

ever, other proportions are stated; but this must have been owing to inattention, or to the carelessness of those whom he employed to make extracts from other writers. Strabo inadvertently observes, that Polybius assigns $8\frac{1}{2}$ Greek stadia to a Roman mile. But Strabo was mistaken, for Polybius says that a Roman mile contained 8 stadia, of 4800 Greek, and 5000 Roman, feet. Xenophon sometimes made use of a stadium, 10 of which composed a Roman mile.

Ancient Grecian Measures reduced to English feet, &c.

	F.	*In.*	*Dec.*
Digit	—	—	756
Doron, or palm, 4 digits	—	3	024
Lichas, 10 digits	—	7	56
Spithamé, 12 digits	—	9	072
Olympic foot, 16 digits, $12\frac{1}{2}$ Roman inches nearly	1	—	096
Greek foot of Pliny, according to Bernard	1	—	125
Foot, mentioned by Herodotus	—	11	044
Cubit, $1\frac{1}{2}$ foot, 18 digits	1	1	61
Large cubit, $1\frac{1}{2}$ foot, 24 digits	1	6	144
Orgya, or pace, 4 large cubits, 6 Olympic feet	6	—	576
Stadium, 100 paces, 600 feet, 9600 digits	604	8	—
Stadium, sometimes used by Zenophon, $\frac{1}{10}$ Roman mile	484	—	—
Mile, 8 stadia, 3200 large cubits, 4800 feet	4837	4	—

Ancient Roman Lineal Measures.

The Romans borrowed their measures from the Greeks. The digit, inch, palm, foot, cubit, and pace, were in use among architects, and were multiples, or subdivisons, of the foot. The mile, stadium, pace, and foot, were employed by geographers. Varro, Columella, and other writers on husbandry, reckoned by the *actus*, about 120 Roman feet: *actus minimus*, 120 feet in length and 4 in breadth:—*actus quadratus*, the square

of

of 120 feet, or 14400 :—*clima*, the square of 60 feet, or 3600 square feet :—*versus*, 100 feet in length, and a square of 10,000 :—*jugerum*, 120 feet in length, and 240 in breadth, making a square of 28800 feet : —*centuria*, a space of 200 acres.

The Roman foot was divided into 12 parts ; and the proportion of this measure to the English foot has been variously estimated. Lucas Pætus reckons it 1.006 English foot ; Paucton 1.014 ; Cassini 0.98 ; Fabretti 986 ; Barthelemi and Danville 0.96 ; Freret, Condamine, and Boscovick 0.97 ; Hellot and Camus 0.975 ; La Hire 0.976 ; Arbuthnot 0.966. The Roman foot of the architects, engraven on certain ancient monuments at Rome, being compared with several standards of metal preserved in the cabinets of virtuosi, its mean length is to the English foot as 968 to 1000. Heron remarks, that the Greek foot used by the Romans was $\frac{5}{6}$ of the Phileterean foot. The Roman foot of Drusus, according to Hyginus, consisted of 27 half inches. The itinerary foot, somewhat larger than that of the architects, was to the Attic foot as 24 to 25 nearly ; for the Romans assigned 625 feet, and the Greeks 600 only to a stadium. The lengths of the Roman foot being various, especially under the Emperors, and in the decline of the Empire, authors, not adverting to this circumstance, were perplexed, and sometimes misled.

There were two sorts of palms, viz. the larger and less. The former, $\frac{3}{4}$ foot, was used by architects, and is generally reckoned 9 inches.

A stadium, according to Pliny and Columella, contained 125 paces.

A mile, milarium, milliare, mille-passus, and lapis, from the stones by which miles were expressed on highways, consisted of 8 stadia. When a mile is said to contain 7 stadia, or somewhat more, the stadium is computed by Greek feet. Suidas and Hesychius mention a mile of 7 Egyptian stadia. Danville reckons a Roman mile 4835 English feet ; several French philosophers extend it to 4844 ; and M. Dutens to 4956. If a Roman foot be equal to 11,616 English inches, a mile will contain 4840 feet.

Roman lineal Measures reduced to English feet, &c.

	F.	In.	Dec.
Digitus	—	—	726
Uncia, or inch, $\frac{1}{12}$ foot, $1\frac{1}{3}$ digit	—	—	968
Palmus minor, 3 inches, 4 digits	—	2	904
Palmus major, 9 inches, 12 digits	—	8	712
Pes, a foot, 12 inches, 4 palms, 16 digits	—	11	616
Foot of Drusus, still used in some districts of the Low Countries	1	1	—
Cubitus, $1\frac{1}{2}$ foot, 18 inches, 24 digits	1	5	424
Gradus, $2\frac{1}{2}$ feet, 30 inches, 40 digits	2	5	04
Passus, 5 feet, $3\frac{1}{2}$ cubits, 60 inches, 80 digits	4	10	08
Stadium, 625 feet, 125 paces	605	—	—
Milliare, 8 stadia, 5000 feet	4840	—	—

English Measures of length.

	F.	In.	Dec.
Inch, $\frac{1}{12}$ foot, $\frac{1}{36}$ yard	—	1	—
Palm, 3 inches, $\frac{1}{4}$ foot, $\frac{1}{12}$ yard	—	3	—
Span, 3 palms, $\frac{1}{4}$ yard	—	9	—
Foot, 4 palms, $\frac{1}{3}$ yard	—	12	—
Cubit, $1\frac{1}{2}$ foot, 6 palms	1	6	—
Yard, 2 cubits, 12 palms	3	—	—
Pace, $1\frac{1}{3}$ yard, $3\frac{1}{3}$ cubit, 60 inches	5	—	—
Fathom, $1\frac{1}{5}$ pace, 2 yards, 4 cubits, 72 inches	6	—	—
Pole, $2\frac{3}{4}$ fathoms, $5\frac{1}{2}$ yards, 11 cubits, 198 inches	16	6	—
Furlong, 40 poles, 132 paces, 220 yards, 7920 inches	660	—	—
Mile, 8 furlongs, 320 poles, 1760 yards, 63360 inches	5280	—	—

A league is equal to 3 miles, and a degree contains 60 geographical, or 69.2 English, miles.

English

English square measure.—A square foot=144 square inches; a yard =9 feet=1296 inches. A square pole=30.25 yards=272.25 feet. A rood=40 square poles=1210 yards=10.890 feet. An acre=4 roods= 160 poles=4840 yards=43.560 feet. There are 640 acres in a square mile.

A chain, consisting of 100 links, each of which is 7.92 inches=4 poles in length=22 yards=66 feet; and there are 80 chains in a mile. An acre=10 chains in length and 1 in breadth=100,000 square links.

Lineal Scotch Measure.

	F.	*In.*	*Dec.*
Inch, $\frac{1}{12}$ foot, $\frac{1}{360}$ ell	—	1	033 nearly
Foot, $\frac{1}{3}$ ell	—	12	4
Ell, 3 feet	3	1	2
Fall, 6 ells	18	7	2
Furlong, 40 falls, 240 ells	744	—	—
Mile, 8 furlongs, 320 falls, 1920 ells	5952	—	—

A Scotch chain, composed of 100 links each, is 8,928 English inches =$24\frac{8}{10}$ yards.

A Scotch mile=80 chains, and an English mile=71.

A Scotch foot is to an English foot, as 185 to 180 nearly.

An acre =5760 ells, or 6150 yards. A Scotch acre is to an English acre, as 1270 to 787.

Modern

Modern Lineal Measures reduced to English feet, &c.

	F.	In.	Dec.
Amsterdam, foot of Snellius	0	11	17
——— foot of la Lande	0	11	136
——— ell	2	3	228
Almamoun, cubit of	1	7	45
Ancona, foot	1	1	38
Antwerp, foot	0	11	352
——— ell	2	3	27
Aquileia, foot	1	1	524
Arabia, ancient cubit	2	1	9
——— cubit of Hachmed	2	4	7
Aragon, vara	5	9	8
Arles, foot	0	10	77
Armenia, foot	0	9	67
——— pace	4	10	2
Augsburg, foot	0	11	95
——— ell	1	7	452
——— ell	1	11	34
Austria, foot	1	3	672
——— ell	3	2	46
Avignon, foot	0	10	656
Barcelona, foot	0	11	904
Basil, foot	0	11	724
—— foot	0	11	808
Bavaria, foot	0	11	448
Berlin, foot	0	11	904
——— ell	2	1	512
Bern, foot	0	11	808
Besançon, foot	1	0	18
Bohemia, foot	0	11	664
Bologna, foot	1	2	9
——— Braccio	2	0	5
Bononia, foot	1	2	4
——— ell	2	1	764
Bourbonnois, foot	1	1	2
Bremen, foot	0	11	5
Breslaw and Brunswick, foot	0	11	196
Bruxelles, foot	0	10	848
Casal, foot	1	1	0
Castile, foot	0	10	92
——— vara	2	8	9
——— vara of 45 digits	2	6	7
Champagne, ell	2	7	08
China, che, or foot	1	0	63
——— cobre, or cubit	2	1	27
——— pu	6	3	816
Cologne, foot	0	10	83
——— foot, by another computation	0	11	448
Constantinople, pic	2	4	0
Copenhagen, foot	0	11	6
Cracow, or Poland, foot	1	2	028
Cremona, foot, or Braccio	1	6	9
Damascus, cubit	2	0	0
Denmark, foot	1	0	348
Dantzic, foot	0	11	328
——— ell	1	10	8
Dort, foot	0	9	24
Dresden, foot	0	11	136
England, foot	1	0	0
Ferrara, foot	1	3	792
Flanders, ell	2	7	592
Florence, foot	0	11	88
——— ell	1	10	9
Frankfort, foot	0	11	376
——— ell	1	9	9
Geneva, ell	1	10	99
Genoa, foot	0	9	60
	0	9	80
Genoa, Canna	7	3	60
Germany, foot	1	2	592
——— pace	6	0	96
Gibraltar, vara	2	9	12
Goa, Cando	3	10	740
Gotha, foot	0	11	1
Hachmed, cubit of	2	4	68
Hague, foot	1	0	79
Hamburgh, foot	0	11	28
——— ell	1	10	86

Harlem,

	F.	In.	Dec.
Harlem, foot	0	11	244
Heidelberg, foot	0	10	824
Hungary, fathom	5	10	032
Inspruck, foot	1	1	212
Ispahan, ell	3	1	392
Konigsberg, foot	1	0	12
	1	2	076
Leyden, foot	1	0	36
—— ell	2	3	12
Leipsic, foot	0	11	112
—— ell	2	3	12
Liege, foot	0	11	328
	0	11	45
Lisbon, foot	0	11	412
—— vara	2	9	0
Lorain, foot	0	11	5
—— ell	2	1	14
—— perch	9	8	4
Lubeck, ell	1	10	0
Lucca, braccio	1	11	496
Lyon, foot	1	1	416
—— ell	3	11	7
Madrid, foot	0	10	88
—— vara	3	3	156
Malta, palm	0	10	436
Mantua, foot	1	6	8
—— braccio	2	1	10
Maestricht, foot	0	10	99
Marseille, palm	0	9	852
Mecklenburg, foot	0	11	472
Mentz, foot	0	11	686
Middleburg, foot	0	11	9
Milan, foot, or braccio	1	8	70
—— calamus	6	6	528
Modena, foot, or braccio	2	0	408
Mons and Namur, foot	0	11	496
Moravia, foot	1	1	14
Muscow, palm	0	8	712
—— foot	1	1	08
—— arschine	2	2	82
—— saschine	7	0	048
Munich, foot	0	11	364
Naples, foot	0	10	316
—— braccio	2	1	20
	2	6	73
	2	10	27
—— canna	6	10	90
Lower Navarre, perch	16	10	44
Netherlands, foot	0	11	0
Normandy, foot	0	11	712
Nuremberg, foot	1	0	24
—— ell	2	3	0
Osnabruck, foot	0	10	99

	F.	In.	Dec.
Otranto, perch	6	10	76
Padua, foot	1	1	94
	1	4	87
Palermo, palm	0	10	32
Paris, foot	1	0	789
—— draper's ell	3	10	512
—— mercer's ell	3	10	76
—— toise	6	4	734
Parma, braccio	2	2	90
Pavia, foot	1	6	468
Persia, royal guese	1	9	0
—— common guese	2	1	596
—— Shah arschine	2	7	92
—— ell of Ispahan	3	1	39
—— Persia ell or arish	3	2	36
Petersburg, foot	1	1	674
Piacenza, braccio	2	2	90
Poitou, foot	1	2	028
Pomerania, foot	0	11	496
Prague, foot	1	0	312
—— foot	0	10	476
—— ell	1	8	95
Rhinland, foot	1	0	36
—— roeden, or perch	12	4	32
Riga, foot	0	10	776
	0	11	184
—— ell	1	10	0
Rome, architect's foot	0	8	78
—— merchant's foot	0	9	79
—— architect's braccio	2	6	73
—— merchant's braccio	2	10	27
—— canna	6	6	0
Rostock, foot	0	11	376
Roterdam, foot	1	0	36
Russia, arschine	2	4	24
Savoy, foot	0	10	656
Saxony, ell	1	10	68
Scotland, foot	1	0	4
—— ell	3	1	2
Siam, sok, or foot	1	6	7
—— ken, or ell	3	1	4
—— vica, or fathom	5	6	36
	5	8	04
—— sex, 20 vica	110	0	6
	113	0	4
Silesia, foot	0	11	388
Smyrna, cubit	2	2	244
Spain, foot	0	11	04
	1	0	013
—— Seville, vara	2	9	12
—— Madrid, vara	3	0	04
Stutgard, foot	0	11	4
Stockholm			

	F.	In.	Dec.
Stockholm, foot	0	11	68
	1	2	7
——— ell	1	11	376
Switzerland, foot	0	11	808
Thorn, foot	0	11	8
Toledo, foot	0	10	70
——— vara	2	8	2
Trent, foot	1	2	4
	1	8	6
——— trabucco	10	1	12
Turin, foot	1	8	17
——— ras	1	11	5
Turkey, pic	2	2	4
	2	4	058
Udina, foot	1	0	96
Venice, foot, Christiani	1	1	728
——— Herigonius	1	1	9

	F.	In.	Dec.
Venice, foot, Snellius	1	2	89
——— de la Lande	1	1	644
——— J. S. M'Kenzie	1	2	0
——— Braccio for silk	2	1	296
——— Braccio for cloth	2	3	01
Verona, foot	1	1	404
Vicenza, foot	1	1	632
Vienna, foot	1	0	5
——— ell	3	6	24
Ulm, foot	0	11	4
——— foot	0	8	88
	0	10	68
Wittemberg, foot	0	11	148
Wurtenburg, foot	0	11	268
——— foot	0	11	748
——— perch	9	8	4

Modern Itinerary Measures, reduced to Horary or Geographical Leagues, and English Miles; one Horary League containing 3.46 *Miles, and* 20 *Leagues* =69.2 *Miles, the extent of a mean degree of the Meridian.*

Places.	Measures.	Number of miles in a degree. M.	Dec.	Horary leagues. L.	Dec	Eng. miles and dec. M.	Dec.
Anjou,	League	33	0	0	606	2	09
Artois,	League, 2000 toises	28	5	0	7	2	42
Austria,	League, 12,000 ells nearly	9	5	2	105	7	3
———	League	14	2	1	4	4	69
———	League	15	0	1	3	4	59
Berlin,	League	17	0	1	18	4	027
Berri,	League	26	0	0	8	2	66
Bohemia,	League	16	0	1	25	4	322
Bologne,	Mile	58	7	0	34	1	178
Bourgogne,	League, 2633 toises	21	7	0	92	3	18
Brabant,	League	18	1	1	15	3	81
———	League	25	0	0	8	2	768
Brasil,	League	17	0	1	18	4	07
Bretagne,	League	33	0	0	606	2	09
Cayenne,	League	28	0	0	71	2	47
Canada,	League, 2000 toises	28	5	0	7	2	42

Places.	Measures.	Number of miles in a degree.	Horary leagues.	Eng. miles and dec.
		M. Dec.	L. Dec.	M. Dec.
Champagne,	League	25 0	0 8	2 76
China,	Modern Li, 168.69 toises	334 0	0 06	0 204
———	Li, A. D. 1662, 296 toises, $3\frac{1}{4}$ feet.			
Constantinople,	Mile, or league	13 0	1 53	5 3
Dantzic,	League	15 3	1 3	4 5
		19 3	1 036	3 57
Denmark,	League	14 8	1 35	4 68
Degree,	Mean degree of the meridian	1 0	20 0	69 2
England,	Mile, 5280 feet. (A league is 3 miles.)	69 2	0 289	1 0
Ferrara,	Mile, $696\frac{1}{7}$ toises	82 0	0 24	0 84
Flanders,	Mile	25 0	0 8	2 76
———	Rhinland league	14 8	1 35	4 68
Florence,	Mile	68 38	0 29	1 019
France,	Marine league, 2835 toises	20 17	0 99	3 43
———	Common league, 2450 toises	23 4	0 85	2 96
———	Short league, 2090 toises	27 35	0 73	2 53
Franks,	Mile, $8\frac{1}{2}$ stadia nearly	80 3	0 243	0 86
———	An hour's journey	20 0	1 0	3 46
Gascogne,	League	18 04	1 111	3 829
Gatenois,	League	32 1	0 60	2 059
Gaul,	Mile, $8\frac{1}{2}$ stadia	80 3	0 243	0 86
———	League, $1\frac{1}{2}$ mile	53 6	0 37	1 2
Germany,	League	14 7	1 34	4 7
———	League, or mile, two common French leagues	11 7	1 7	5 92
Greece,	Modern Greek mile, 7 oly. stadia, $4232\frac{7}{12}$ English feet	86 0	0 23	0 801
Holland,	League	19 0	1 01	3 5
Hungary,	League, 35070 English feet	10 4	1 92	6 64
———	League, 6 Roman miles, each 4834 English feet	12 6	1 58	5 48
———	League, 8 Russian werst, 28056 English feet	13 1	1 53	5 279
———	League, near the Danube	13 2	1 51	5 23
Horary,	League	20 0	1 0	3 46
India,	Coss in Dehli, according to Roe	34 6	0 578	2 0
———	Coss, in the northern provinces, according to Rennel	36 4	0 54	1 9
	N. B. The Coss varies in different parts of the country.			
Italy,	Mile, 764 toises, 4876 Eng. feet (See Naples and Florence.)	74 98	0 267	0 923
Languedoc,	League, 3000 toises	19 06	1 05	3 63
Lithuania,	League	20 0	1 0	3 46
Lombardy,	Mile	67 3	0 297	1 028
Lorrain,	League	23 7	0 84	2 916
Luxemburg,	League	29 4	0 68	2 35
Lyonnois,	League	27 2	0 735	2 547
Maine,	League	24 0	0 83	2 89
Malabar,	Gau	10 0	2 0	6 92
Moravia,	Mile	12 5	1 6	5 53
———	Another mile, $16\frac{2}{3}$ in a degree.			
Muscovy,	Werst, 3507 English feet	104 2	0 192	0 664
———	League	19 6	1 07	3 53
Naples,	Mile, 989 toises	57 7	0 34	1 198
———	Mile of 1091 toises, according to M. Dutens	52 4	0 38	1 32
Normandy,	League	25 7	0 8	2 768

Places.	Measures.	Number of miles in a degree. M. Dec.	Horary leagues. L. Dec.	Eng. miles and dec. M. Dec.
Ocean,	Marine league	47 66	0 419	1 45
Paris,	League, 2000 toises	28 5	0 7	2 42
Perche,	League	24 0	0 83	2 89
Picardy,	League	25 0	0 8	2 768
Piedmont,	Mile, 1188 toises	48 0	0 416	1 439
———	Mile, 1140 toises	48 2	0 415	1 435
———	Another mile	44 8	0 446	1 546
Poitou,	League	26 5	0 758	2 612
Poland,	League	20 0	1 0	3 46
Portugal,	League	18 1	1 10	3 82
Provence,	League	19 06	1 05	3 63
Prussia,	League	15 0	1 333	4 0
Rhinland,	League	14 8	1 35	4 68
Rome,	Mile	74 8	0 267	0 925
Russia,	Werst, 3507 English feet	104 2	0 192	0 664
———	League	19 6	1 07	3 53
Saxony,	League	12 0	1 65	5 72
Scotland,	Mile, 5952 English feet	61 38	0 326	1 127
Shetland,	League	12 6	1 59	5 50
Siam,	Roening, 1730 toises	33 1	0 60	2 09
——	Roening, 1775 toises	31 6	0 63	2 187
——	Roening, 1972 toises	20 6	0 97	2 39
Silesia,	League	24 7	0 81	2 80
Swabia,	League	15 04	1 329	4 6
Spain,	League, since the year 1766	16 7	1 2	4 14
———	Itinerary league	20 0	1 0	3 46
Sweden,	League	10 36	1 96	6 68
Switzerland,	Common league	23 2	0 86	2 98
———	League of 3789 toises	15 1	1 324	4 58
———	Great league=3 common leagues	7 74	2 6	8 94
Surat,	Gos	10 0	2 0	6 92
Surinam,	League	26 9	0 74	2 57
Touraine,	League	28 57	0 7	2 422
———	Mile, 4847 English feet	75 38	0 265	0 918
———	Agash, 4 wersts	26 0	0 768	2 657
	N. B. In Turkey there are miles of 5, 6, 7, 7½, and 8 stadia, each stadium being 700.25 English feet.			
Tuscany,	Mile, 858 toises and 2 feet, according to M. Dutens	66 86	0 299	1 035
Venice,	Mile, 941¼ toises	60 7	0 329	1 14
———	Mile, 978 toises	58 39	0 34	1 185
Ukraine,	League	11 97	1 67	5 78
United Provinces	League	19 6	1 02	3 53

French

French Toises, Feet, Inches, &c. frequently used in the computations of Geographers, are reduced to English Lineal Measure in the following Table.

French Inches converted into English measure.				French Lines converted into Decimals of an English Foot.				Fr. Ft. converted into Eng. Feet.	
F. I.	Decimals of a Foot.	Correction.	Decim. of an Eng. Foot.	Lines	Decimals of a Foot.	Correction.	Decim. of an Eng. Foot.	Fr. F.	Eng. Feet and Decim.
1	.083333	.005479	.0888	1	00694	.00045	0074	1	.06575
2	.16666	.010958	.1776	2	01388	.00091	0148	2	2 13150
3	25	.01643	.2664	3	02083	.00137	0222	3	3.19725
4	3333	.0219	3552	4	02777	.0018	0296	4	4.26300
5	4166	.02739	444	5	03472	.00228	0370	5	5.32875
6	5	.03287	5328	6	04166	.00274	0444	6	6.3945
7	5833	.0383	62168	7	0486	.00319	0518	7	7.46025
8	6666	.0438	7105	8	0555	.0036	0592	8	8.526
9	75	.0493	7993	9	06249	.0041	0666	9	9.59175
10	83333	.0548	8882	10	0694	.00456	074	10	10.6575
11	91666	.06027	9769	11	0763	.005	0814	20	21.3150
12	1.0000	.06575	1.06575	12	0833	.00548	0888	30	31.9725
								40	42.63
N. B. One English Foot = 0.9377 Paris Foot, or 11 In. 3 L. nearly.								50	53.2875
A Toise of Paris = 6.3945 English Feet.								100	106.5750

French Lineal Measures since the Revolution.

THE natural standard proposed by the French academicians for measures of lineal extension, and for measures of all other quantities, is the metre, the ten millionth part of a quadrant of the terrestrial meridian. From the measurement of an arch of the meridian, extending from Dunkirk to Barcelona, upwards of $9\frac{1}{2}$ degrees, a quadrant of the meridian was found to contain 5130740 toises; consequently a metre is $443.\frac{296}{1000}$ lines, or 39.38 English inches.

This standard is divided decimally, and multiplied decimally, in order to constitute all other measures. Thus, the decametre is 32.816 Eng-

lish feet; the hectometre is 328.16; the kylometre, or mile, is 3281.6; the myrrametre, or league, is 32816 feet, or 5131 toises nearly. The measures in tenfold proportion less than the metre, are designed by the terms deci, centi, milli, &c.---as decimetre, or $\frac{1}{10}$ metre; centimetre, $\frac{1}{100}$ metre; millimetre, $\frac{1}{1000}$ metre.

A litre, the primitive measure of solidity, is a cube, whose side is $\frac{1}{10}$ metre; a decalitre is 10 litres; and a decilitre is $\frac{1}{10}$ litre.

An are is the square of a decametre, or 100 square metres; a decare is 10 ares; a hectare is 100 ares; a deciare is $\frac{1}{10}$ are; a centiare is $\frac{1}{100}$ are, &c.---N. B. All the multiples and submultiples of the metre are taken in a tenfold proportion.

The Ratio of a Toise and its Subdivisions to a Metre and its Subdivisions.

The ratio of a Toise to a Metre, is	1 to 1.94.9036	The Ratio of a Centimetre to an Inch,	1 to 0.36.943
Metre to a Toise,	1 – 0.513.074	Line to Millimetre,	1 – 2.558
Foot to a Decimetre,	1 – 3.248.839	Millimetre to a Line,	1 – 0.44.336
Decimetre to a Foot,	1 – 0.30.784	Ell to a Metre,	1 – 1.1885
Inch to a Centimetre,	1 – 2.7070	Metre to an Ell,	1 – 0.8415

To reduce Toises to Metres:——Rule---Multiply the proportion of a Toise by the number of Toises given.

Examp. I. How many Metres are contained in 25 Toises?

1.94.9036
× 25

Product 48.72.5900, *i. e.* 48 Metres, and 72 Centimetres.

Examp. II. How many Toises are in 18 Metres, and 70 Centimetres?

0.513074
× 18.70

9.59448380, *i. e.* 9 Toises and $\frac{59}{100}$ Toise.

Examp. III. How many Feet are in 10 Decimetres?

0.30784
× 10

3.07840, *i. e.* $3\frac{07}{100}$ Feet.

Examp. IV. How many Decimetres are in 15 Feet?

3.24839
× 15

48.72585, *i. e.* $48\frac{73}{100}$ Decimetres.

Toises

Toises may be reduced to Metres by the following Table.

Toise.	Metre.	Decimetre.	Centimetre.	Millimetre.
1	1	9	4	9
2	3	8	9	8
3	5	8	4	7
4	7	7	9	6
5	9	7	4	5
6	11	6	9	4
7	13	6	4	3
8	15	5	9	2
9	17	5	4	1
10	19	4	9	0
20	38	9	8	0
30	58	4	7	1
40	77	9	6	1
50	97	4	5	1
100	194	9	0	3
1000	1949	0	3	6

Reduction of Metres to Toises, Feet, &c.

Metres.	Toises.	Feet.	Inches.	Lines. Decimetres.
1	0	3	0	11.296
2	1	0	1	10.592
3	1	3	2	9.888
4	2	0	3	9.184
5	2	3	4	8.480
6	3	0	5	7.776
7	3	3	6	7.072
8	4	0	7	6.368
9	4	3	8	5.664
10	5	0	9	4.960
20	10	1	6	9.920
30	15	2	4	2.880
40	30	3	1	7.840
50	25	3	11	0.800
100	51	1	10	11.1600
1000	513	0	5	4.000

Reduction of Feet to Metres, &c.

Feet.	Metres.	Decimetres.	Centimetres.	Millimetre.
1	0	3	2	5
2	0	6	4	9
3	0	9	7	4
4	1	2	9	9
5	1	6	2	4
6	1	9	4	9
7	2	2	7	3
8	2	5	9	8
9	2	9	2	3
10	3	2	4	8
11	3	5	7	3
12	3	8	9	8
13	4	2	2	2
14	4	5	4	7

Reduction of Ells to Metres.

Ells.	Metres.	Centimetres.
1	1	19
2	2	37
3	3	56
4	4	75
5	5	94
6	7	13
7	8	38
8	9	50
9	10	69
10	11	88
20	23	78
30	35	65
40	47	56
50	59	46

Reduction of Metres to Ells.

Metres.	Ells.	Centimetres.
1	0	84
2	1	68
3	2	52
4	3	36
5	4	20
6	5	05
7	5	89
8	6	73
9	7	57
10	8	41
20	16	83
30	25	24
40	33	66
50	42	07

Centimetres or Inches.

Inches.	Inches.
1 — 2.7070	1 — 0.36941
2 — 5.4140	2 — 0.73883
3 — 8.1210	3 — 1.10824
4 — 10.8280	4 — 1.47765
5 — 13.5350	5 — 1.84707
6 — 16.2420	6 — 2.21848
7 — 18.9490	7 — 2.58589
8 — 21.6560	8 — 2.95530
9 — 24.3630	9 — 3.32472
10 — 27.0699	10 —
11 — 29.7769	11 —

Millimetres.

Lines.	Feet. Lines.
1 — 2.2558	1 — 0.44330
2 — 4.5117	2 — 0.88659
3 — 6.7675	3 — 1.32989
4 — 9.0233	4 — 1.77318
5 — 11.2791	5 — 2.21648
6 — 13.5350	6 — 2.65978
7 — 15.7908	7 — 3.10307
8 — 18.0466	8 — 3.54637
9 — 20.3025	9 — 3.98966
10 — 22.5583	
11 — 24.8141	

The

The Extent and Population of the Globe.

A LEAGUE of 25 to a degree consists of $2278\frac{1}{4}$ toises, or 2.76 English miles. A square league contains 3877 arpens, each of which being equal to 54853.36 English feet, or 1.259 English acre.

The earth's circumference, considered as a perfect sphere, is 9000 leagues; its diameter $2864\frac{4}{5}$ nearly; radius $1432\frac{2}{5}$; and superficies 25,783,095 square leagues. According to the computation of M. Struyk, Templeman, and other geographers, the waters cover almost two-thirds of the earth's surface.

The extent of Europe, Africa, Asia, and America, is as 1, 4, 5, and 7.

If maps of the several regions of the globe be divided into degrees of longitude and latitude, the lines of division will form quadrilateral spaces unequal among themselves, but proportional to the respective degrees of latitude. To find the superficial content of those spaces, multiply 25 leagues, the value of one degree of the equator, by the difference of the sines of latitude reduced to leagues. On this principle the following table is constructed.

Table

Table of Degrees of Latitudes and Square Leagues.

Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.	Deg. of lat.	Square leagues.
1	624.95	14	607.7	27	559.4	40	482.4	53	380.65	66	259.25	79	124.6
2	624.9	15	605.2	28	554.35	41	475.2	54	371.7	67	248.9	80	113.9
3	624.5	16	602.0	29	549.3	42	468.0	55	362.75	68	239.2	81	103.1
4	623.8	17	599.1	30	544.0	43	460.9	56	354.2	69	229.2	82	92 39
5	623.1	18	596.2	31	528.6	44	453.35	57	344.85	70	218.8	83	81.65
6	622.0	19	592 7	32	532.9	45	445.8	58	335.9	71	208 8	84	70.54
7	620.95	20	589.1	33	527.1	46	437.95	59	326.6	72	198.4	85	59·80
8	619.5	21	585.5	34	521.0	47	430.1	60	317.3	73	187.65	86	49.6
9	618.1	22	581.6	35	515.3	48	422.2	61	307.6	64	177.6	87	38·32
10	616.65	23	577.25	36	508.85	49	414.3	62	298.3	75	167.25	88	27.21
11	614.5	24	573.3	37	502.4	50	405.7	63	288.6	76	156.5	89	16.47
12	612.4	25	568.7	38	495.6	51	397.85	64	278.6	77	145.8	90	5.37
13	610 2	26	564.0	39	489.2	52	388.9	65	269.3	78	135.4		

The use of this table will be sufficiently illustrated by an example. London is situated between 51° and 52° N. latitude. If the extent of the quadrilateral space in which it lies be required, find the number in the table, corresponding to 52°, viz. 388.9 square leagues. In every case, the number of the quadrilateral space corresponding to the latitude nearest to either pole is to be taken as the superficial content of that space.

A view of Population, stating the proportion of Births, Marriages, and Deaths, to the whole inhabitants of a Town and Country.

1. The inhabitants of towns compose about $\frac{1}{4}$ of the population of a kingdom, and those of the country $\frac{3}{4}$.
2. Persons below $28\frac{1}{2}$ years are a little more than one half, and those below 13 years are one-fourth of the population of a kingdom; so that one-fourth of life is past at 13 years, one-half at 28 or 29 years, and three-fourths at 50. In country districts the proportions are different.

3.

3. Young men above 13 years are to the inhabitants of a kingdom as 4 to 33; and girls as 3 to 25 nearly.
4. Among 1000 persons of both sexes may be reckoned 175 or 180 marriages; and in a populous country 1 in 50—54 is annually married.
5. 29 of 1000 males of 27 years, and upwards, are annually married.
6. The number of married men is to the number of men adult, as 3 to 5; and the number of married women is to those fit for marriage as 1 to 3.
7. Among 51 persons of both sexes there is one old man, and more than 3 old women.
8. The number of widowed persons of either sex is to that of persons married, is as 3 to 14, and of both sexes as 3 to 7.
9. The proportion of births to marriages is as 4 to 1 nearly; that is, about 4 children may be reckoned for every married pair in a country; and in a town 10 marriages produce 32 children.
10. The number of a family in a country is 5 nearly; and in a town $4\frac{1}{2}$ or $4\frac{1}{4}$.
11. The proportion of persons married to the whole inhabitants is nearly the same, both in town and country; but there are more widows and widowers in a town than in a country, in the proportion of 16 to 11 nearly. The proportion of married men, or widowers, to married women, or widows, is as 125 to 140 nearly; and the whole number of this class is to the whole inhabitants as 53 to 126.
12. Married women live longer than those who are single.
13. Married women commence widows, at the medium of 52 years of age; and the number of widowers is to that of widows as 1 to 3 nearly; so that there are 3 widows for one widower.

14.

14. Married pairs, the sum of whose ages is 40, live together 24 years; 50—22; 60—23; 70—19; 80—17; 90—14; and if the sum be 100, they live together 12 years.
15. One-fifth of the inhabitants of a kingdom is fit to bear arms.
16. The proportion of births to the whole inhabitants of a kingdom, is as 1 to 26 or 28; in a country district as 1 to 22; in Holland as 1 to 35; in France as 1 to $25\frac{3}{4}$.
17. Sixty married pairs produce 10 children annually. Almost 1 child less in 4 is born in a town than in a country.
18. One-sixth of married women, or one-twelfth of women above 13 years, or one-eight of the whole sex, produce one child annually.
19. The proportion of male to female births is commonly reckoned as 20 to 19; but in some districts of this kingdom it is as 24 to 25.
20. Of 90 children one is still born in great cities.
21. There are twins in 70---75 births; and the proportion of births to that of females, is as 10 to 66.
22. In the country more boys are born than girls; but the reverse in towns.
23. Births to deaths are as 19 to 18, or, according to Price, as $1\frac{7}{70}$ to 1; so that population is gradually increasing.
24. One in 19—23 dies annually in great cities; 1 in 24—28 in moderate towns; 1 in 43—53 in a country; and 1 in 30---35 in a kingdom.
25. Upwards of one-third of all persons born in London die before 5 years of age.
26. One in 70 in the worst, and 1 in 150 in the best situation, annually dies between 10 and 15 years of age.
27. Of 1000 persons in a kingdom 402 die in 20 years; 469 in 30; 758 in 60; 980 in 84 years.

28. According to another computation, of 23994 children born at the same time, there will probably die in one year 7998; in 8 years 11997; in 38 years 15996; in 50 years 17994; in 61 years 19995; in 70 years 21595; in 80 years 22395; in 90 years 23914; in 100 years 23992; so that 2 only remain.

29. In the healthy district of Vaud, Switzerland, of 1000 persons 189 die in the first year of their age; 347 in 10 years; 390 in 20 years; 437 in 30 years; 494 in 40 years; 569 in 50 years; 686 in 60 years; 832 in 70 years; 954 in 80 years; 995 in 90 years.

30. In most countries fewer men are alive than women; and more males die in the first and last periods of life.

31. One-half of females die below 46; and one-half of males below 36 years.

32. Of 1000 clergy in Scotland, $4\frac{1}{2}$ die annually without widow or children; 6 leave children and no widows; and 19 leave widows.

33. Nineteen married clergy die to 13 married women.

34. Thirty-one persons in 1000, who have arrived at 27 years, die annually, *i. e.* about one thirty-third of mankind.

35. One-fourth of the inhabitants of towns, and one-fifth of those in the country, die between 14 and 51 years; one-third at 51 years and upwards; and the remainder below 14.

36. In a kingdom, the number of inhabitants below 5 years of age is one-seventh, and above 70 it is one thirty-secondth of the whole: but, in the best situations, the proportions are greater.

37. One of 115 women dies in child-birth.

38. Seven in 100 children die in the natural small-pox; and one in 500 by innoculation.

39. If mankind had never died, there would have been at present about 180,000,000 inhabitants on earth.

40.

40. A generation is reckoned at $33\frac{1}{3}$ years, *i.e.* the whole of the human race are changed, at a medium, in that period. Reckoning the world 5800 years old, there have been 173 generations since the creation; 124 since the flood; 53 since the Christian æra.

41. Supposing a generation 33 years, and the whole of mankind

1,000,000,000, there will die		And there are born	
annually	30,000,000	annually	33,000,000
every day	82,000	every day	90,400
every hour	3,417	every hour	3,770
every minute	57	every minute	63
every second	1 nearly	every second	$1\frac{1}{7}$ nearly.

A

TABLE

OF

LONGITUDES AND LATITUDES OF PLACES;

The former being computed from GREENWICH and PARIS Observatories, and from the Meridian of FERRO.

N. B.—The situations of the Islands recently discovered in the Pacific Ocean are ascertained in the description of those parts.

A

TOWNS, &c.	COUNTRIES.	LONGITUDES. From Paris.	LONGITUDES. From Ferro.	LONGITUDES. From Greenwich.	LATITUDES.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Aalborg	Denmark	7 36 30 E	27 36 30 E	9 56 30 E	57 2 57 N
Abbeville	France	0 30 17 W	19 29 43 E	1 49 43 E	50 7 4 N
Aberdeen	Scotland	4 28 0 W	15 32 0 E	2 8 0 W	57 9 0 N
Abo	Finland	19 55 0 E	39 55 0 E	22 15 0 E	60 27 7 N
Acapulca	Mexico	102 19 30 W	82 19 30 W	101 59 30 W	17 0 5 N
Aden	Arabia	43 38 0 E	63 53 0 E	46 13 0 E	12 40 0 N
Adrianople	Turkey	24 5 0 E	44 5 0 E	26 25 0 E	42 0 0 N
Adventure Bay	New Holland	145 11 20 E	165 11 20 E	147 31 40 E	43 21 20 S
Agimere	India	73 0 0 E	93 0 0 E	75 20 0 E	26 35 0 N
Agra	India	75 58 0 E	95 28 0 E	78 18 0 E	27 12 0 N
Agria	Hungary	18 1 30 E	38 1 30 E	20 21 30 E	47 53 54 N
Aix	France	3 6 34 E	23 6 34 E	5 26 34 E	43 31 48 N
Aleppo	Syria	34 50 0 E	54 50 0 E	37 10 0 E	36 11 25 N
Alexandretta	Syria	33 55 0 E	53 55 0 E	36 15 0 E	36 34 47 N
Alexandria	Egypt	27 35 30 E	47 35 30 E	29 35 30 E	31 13 5 N
Algier	Algier	0 43 0 E	20 43 0 E	3 3 0 E	36 48 30 N
Alicant	Spain	2 48 50 W	17 11 10 E	0 28 50 W	38 28 30 N
Alkimaar	Holland	2 18 30 E	22 18 30 E	4 38 30 E	52 37 34 N
Allahabad	India	79 45 0 E	99 45 0 E	82 5 0 E	25 28 0 N
Amednagur	India	72 30 0 E	92 30 0 E	74 50 0 E	19 6 0 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Amiens	France	0 2 4 W	19 57 56 E	2 17 56 E	49 53 43 N
Amsterdam	Holland	2 30 30 E	22 30 30 E	4 50 30 E	52 21 56 N
Amsterdam Isle	Indian Ocean	79 59 51 E	99 59 51 E	82 19 51 E	37 48 30 S
Ancona	Italy	11 8 52 E	31 8 52 E	28 52 0 E	43 37 54 N
Angers	France	2 53 15 W	17 6 45 E	0 33 15 W	47 28 9 N
Angouleme	Angoumois	2 11 13 W	17 48 47 E	0 8 47 W	45 39 3 N
Angra	Terceira	29 32 42 W	9 32 42 W	27 12 42 W	38 39 7 N
St Andrews	Scotland	5 10 30 W	14 49 30 E	2 50 30 W	56 19 33 N
Antongill Bay	Madagascar	48 3 15 E	68 3 15 E	50 23 15 E	15 27 23 S
Antigua	Caribee	64 29 0 W	44 49 0 W	62 9 0 W	17 4 30 N
Antony Island	Cape Verd	27 22 0 W	7 22 0 W	25 2 0 W	17 18 0 N
Antioch	Syria	34 10 45 E	54 10 45 E	36 30 45 E	36 19 45 N
Antwerp	Flanders	2 4 0 E	22 4 0 E	4 24 0 E	51 13 18 N
Archangel	Russia	36 39 0 E	56 39 0 E	38 59 0 E	64 34 0 N
Arcot	India	77 8 4 E	99 8 4 E	79 28 4 E	12 51 24 N
Ascension Island	Atlantic	16 19 30 W	3 40 30 E	13 59 30 W	7 57 0 S
Asow	Russia	38 1 0 E	58 1 0 E	40 21 0 E	47 10 30 N
Astracan	Tartary	45 42 45 E	65 42 45 E	48 2 45 E	46 21 12 N
Athens	Turkey	21 32 36 E	41 32 36 E	23 52 36 E	38 5 0 N
Atooi Isle	Sandwich Island	161 39 30 W	141 59 30 W	159 39 30 W	21 57 0 S
Auch	France	1 45 4 W	18 14 56 E	0 34 56 E	43 38 36 N
Autun	France	1 57 44 E	21 57 44 E	4 17 44 E	46 56 48 N
Aveiro	Portugal	11 0 0 W	9 0 0 E	8 40 0 W	40 38 20 N
Augsburg	Germany	8 33 38 E	28 33 38 E	10 53 38 E	48 21 42 N
Auxerre	France	1 14 6 E	21 14 6 E	2 34 6 E	47 47 57 N
Avignon	France	2 28 10 E	22 28 10 E	4 48 10 E	43 57 0 N
Avranches	France	3 41 51 W	16 18 9 E	1 21 51 W	48 41 21 N
Awatska Bay	Kamtschatka	156 28 0 E	176 28 0 E	158 48 0 E	52 51 42 N

B.

Babelmandel	Africa	41 25 0 E	61 25 0 E	43 45 0 E	12 50 0 N
Babylon	Irak-Arabia	40 26 30 E	60 26 30 E	42 46 30 E	32 55 0 N
Bagdat	Mesopotamia	42 2 15 E	62 2 15 E	44 22 15 E	33 20 0 N
Baharein Island	Arabia	47 41 0 E	67 41 0 E	50 1 0 E	26 43 0 N
Ballasore	India	84 41 30 E	104 41 30 E	87 1 30 E	21 20 0 N
Balbeck	Syria	34 8 0 E	54 8 0 E	36 28 0 E	34 1 0 N
Bangalore	India	75 17 10 E	95 17 10 E	77 37 10 E	13 0 0 N
Bantam	Java	103 30 0 E	123 30 0 E	105 50 0 E	6 0 0 S
Bambridge	Wight I.	2 23 45 W	17 36 15 E	0 3 45 W	50 40 15 N.
Bangalore	India	74 57 10 E	95 17 10 E	77 37 10 E	13 3 0 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Bank's Isle	New Zeeland	175 23 55 E	195 23 55 E	173 3 55 E	43 43 0 S
Barbadoes	at Bridgetown	62 0 15 W	42 0 15 W	59 40 15 W	13 5 0 N
Barbuda Island	Atlantic	64 10 0 W	44 10 0 W	61 50 0 W	17 49 45 N
Barcelona	Spain	0 8 15 W	19 51 45 E	2 11 45 E	41 22 0 N
Barcelona	Terra Firma	67 4 5 W	47 4 5 W	64 44 5 W	10 8 14 N
Barcelore	India	72 5 0 E	92 5 0 E	74 25 0 E	13 35 0 N
Bareilly	India	79 13 0 E	99 13 0 E	81 33 0 E	28 12 0 N
Barfleur	France	1 35 36 W	16 24 24 E	1 15 36 W	49 40 21 N
Barnevelt's Isle	Terra del Fuego	69 9 30 W	49 9 30 W	66 49 30 W	55 49 0 S
Bashee Isles	Indian Ocean	118 40 0 E	138 40 0 E	121 0 0 E	21 4 0 N
Basil	Switzerland	5 15 48 E	25 15 48 E	7 35 0 E	47 33 34 N
Bassora	Irak-Arabia	46 18 54 E	66 18 54 E	43 38 54 E	30 24 0 N
Bastia	Corsica	7 6 30 E	27 6 30 E	9 26 30 E	42 41 36 N
Batavia	Java	104 30 0 E	124 30 0 E	106 50 0 E	6 11 0 N
Bath	England	4 41 30 W	15 18 30 E	2 21 30 W	51 22 30 N
Bayeux	France	3 2 11 W	16 57 49 E	0 42 11 W	49 16 34 N
Bayonne	France	1 28 41 W	16 11 19 E	1 28 41 W	43 29 15 N
Bedur	India	75 42 0 E	95 42 0 E	78 2 0 E	17 54 0 N
Beering Island	Asia	170 6 0 W	150 6 0 W	167 46 0 W	55 36 0 N
Belfast	Ireland	8 28 0 W	11 32 0 E	6 8 0 W	54 40 0 N
Belgrade	Hungary	18 10 0 E	38 10 0 E	20 30 0 E	44 53 18 N
Belle-isle	France	5 25 0 W	14 35 0 E	3 5 0 W	47 17 17 N
Belmont	Scotland	5 31 15 W	14 28 45 E	3 11 15 W	56 35 0 N
Benares	India	80 50 0 E	100 50 0 E	83 10 0 E	25 20 0 N
Bencoolen	Sumatra	99 42 30 E	119 42 30 E	102 2 30 E	3 49 16 S
Bergamo	Italy	7 20 11 E	27 20 11 E	9 40 11 E	45 42 0 N
Bergen	Norway	2 41 30 E	22 41 30 E	5 11 30 E	60 23 40 N
Bergen-op-zoom	United Provinces	1 56 57 E	21 56 57 E	4 16 57 E	51 29 46 N
Berlin	Brandenburg	11 3 0 E	31 3 0 E	13 23 0 E	52 31 30 N
Bermudas Island	Atlantic	65 48 0 W	45 48 0 W	63 28 0 W	32 35 0 N
Bern	Switzerland	5 6 0 E	25 6 0 E	7 26 0 E	46 57 0 N
Berwick	England	4 20 0 W	15 40 0 E	2 0 0 W	55 47 30 N
Besançon	France	3 42 46 E	23 42 46 E	6 2 46 E	47 14 12 N
Beziers	France	0 52 24 E	20 52 24 E	3 12 24 E	40 20 23 N
Cape Blanc	Magellan Straits	67 2 0 W	47 2 0 W	64 42 0 W	47 20 0 S
Blanco Cape	Africa	19 30 0 W	1 50 0 W	17 10 0 W	20 55 30 N
Blenheim	England	3 41 0 W	16 19 0 E	1 21 0 W	51 50 25 N
Cape Bojador	Negroland	16 47 0 W	3 13 0 E	14 27 0 W	26 12 30 N
Bolabola Island	Pacific Ocean	154 12 0 W	134 12 0 W	151 52 0 W	16 32 30 N
Bolchertsk	Kamtschatka	154 16 30 E	174 16 30 E	156 36 30 E	52 54 30 N
Bologna	Italy	9 0 25 E	29 0 25 E	11 20 25 E	44 29 36 N
Bombay	India	70 34 24 E	90 34 24 E	72 54 24 E	18 55 42 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Bonifacio	Corsica	0 49 1 E	26 49 1 E	9 9 1 E	41 23 13 N
Boston	America	72 37 15 W	52 37 15 W	70 37 15 W	42 25 0 N
Botany Bay	New Holland	148 55 0 E	168 55 0 E	151 15 0 E	34 6 0 S
Boulogne	Picardie	0 43 27 W	19 16 33 E	1 36 33 E	50 43 37 N
Bourbon Isle	Indian Ocean	53 10 0 E	73 10 0 E	55 30 0 E	20 50 54 N
Bourdeaux	France	2 54 15 W	17 5 45 E	0 34 15 W	44 50 14 N
Bourges	France	0 3 46 E	20 3 46 E	2 23 46 E	47 4 58 N
Brandenburg	Prussia	10 33 0 E	30 33 0 E	12 53 0 E	52 27 0 N
Breda	Brabant	2 26 9 E	22 26 9 E	4 46 9 E	53 35 32 N
Bremin	Germany	6 27 48 E	26 27 48 E	8 47 48 E	53 4 45 N
Breslaw	Silesia	15 35 30 E	35 35 30 E	17 35 30 E	51 6 30 N
Brighthelmstone	England	2 31 55 W	17 28 5 E	0 11 55 W	50 49 32 N
Brest	France	6 49 59 W	15 10 1 E	4 29 59 W	48 22 42 N
Brisançon	France	4 17 9 E	24 17 9 E	6 37 9 E	44 53 9 N
Bristol	England	4 55 0 W	15 5 0 E	2 35 0 W	51 28 0 N
Bruges	Low Countries	0 53 28 E	20 53 28 E	3 13 28 E	51 12 40 N
Brunswick	Germany	8 9 15 E	28 9 15 E	10 29 15 E	52 15 43 N
Brussels	Low Countries	2 1 55 E	22 1 55 E	4 21 55 E	50 50 59 N
Buda	Hungary	16 41 45 E	36 41 45 E	19 1 45 E	47 29 44 N
Buenos Ayres	Paraguay	60 43 38 W	40 43 38 W	58 23 38 W	34 35 26 N
Buenavista	C. Verd Island	25 5 0 W	5 5 0 W	22 45 0 W	16 0 0 N

C

Cabul	India	66 18 0 E	86 18 0 E	68 38 0 E	34 30 0 N
Cadez, Obsy	Spain	8 37 35 W	11 22 25 E	6 17 35 W	36 30 0 N
Caen	France	2 41 47 W	17 18 13 E	0 21 47 W	49 11 12 N
Cairo	Egypt	28 53 30 E	48 58 30 E	31 18 30 E	30 2 21 N
Cahors	France	0 53 38 W	19 6 22 E	1 26 22 E	44 26 44 N
Calais	France	0 28 59 W	19 31 1 E	1 51 1 E	50 57 31 N
Calcutta	India	86 8 0 E	106 8 0 E	88 28 0 E	22 33 0 N
Calicut	India	73 23 0 E	93 23 0 E	75 43 0 E	11 18 0 N
Calmar	Sweden	14 6 0 E	34 0 6 E	16 26 0 E	56 40 30 N
Calvi	Corsica	6 25 1 E	26 25 1 E	8 45 1 E	43 34 7 N
Cambray	Netherlands	0 53 31 E	20 53 31 E	3 13 31 E	50 10 35 N
Cambridge	America	73 24 0 W	53 24 0 E	71 4 0 E	42 24 0 N
Cambridge	England	2 15 45 W	17 44 15 E	0 4 15 E	52 12 36 N
Candia Island	Mediter. Sea	22 58 0 E	42 58 0 E	25 18 0 E	35 18 42 N
Canton	China	110 56 17 E	130 56 17 E	113 16 17 E	23 8 9 N
Casan	Russia	47 34 30 E	67 34 30 E	49 29 30 E	55 44 0 N
Candahar	India	63 13 0 E	83 13 0 E	65 33 0 E	33 0 0 N
Canoge	India	77 55 0 E	97 55 0 E	80 15 0 E	27 4 0 N

Longitudes

Longitudes and Latitudes of Places.

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		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Canton	China	110 56 8 E	130 56 8 E	113 16 8 E	23 7 0 N
Canterbury	England	1 15 27 W	18 44 33 E	1 4 53 E	51 18 26 N
Carcassone	France	0 0 49 E	20 0 49 E	2 20 49 E	43 12 50 N
Carlscroon	Sweden	13 10 0 E	33 10 0 E	15 30 0 E	56 20 0 N
C. of Good Hope	Africa	16 3 7 E	36 3 7 E	18 23 7 E	33 55 12 S
Cape North	Lapland	23 30 0 E	43 30 0 E	25 50 0 E	71 10 30 N
Caermarthen	Wales	6 32 30 W	13 27 30 E	4 12 30 W	52 2 0 N
Capraia Isle	Italy	7 27 57 E	27 27 57 E	9 47 57 E	43 0 18 N
Carthage	Africa	8 59 45 E	28 59 45 E	11 19 45 E	36 51 0 N
Carthagena	Spain	3 20 30 W	16 39 38 E	1 0 30 W	37 36 7 N
Carthagena	New Granada	77 40 35 W	57 40 35 W	75 20 35 W	10 26 35 N
Cassel	Germany	7 15 0 E	27 15 0 E	9 35 0 E	51 19 20 N
St Catherine's Isle	Brasil	49 49 0 W	29 49 0 W	47 29 0 W	27 19 0 S
Cayenne	Guiana	54 35 0 W	34 35 0 W	52 15 0 W	4 56 15 N
Chalons on the Maine	France	2 0 52 E	22 0 52 E	4 20 52 E	48 57 28 N
—— on the Saone	France	2 31 2 E	22 31 2 E	4 51 2 E	46 46 50 N
Chandernagore	Bengal	86 9 15 E	106 9 15 E	88 29 15 E	22 51 26 N
Charleroi	Netherlands	2 9 25 E	22 9 25 E	4 29 25 E	50 25 35 N
Charlestown	Carolina	82 30 0 W	62 30 0 W	80 10 0 W	32 45 0 N
Q. Charl. Cape	N. Caledonia	164 52 45 E	184 52 45 E	167 12 45 E	22 15 0 S
Cherburg	France	3 37 18 W	16 2 42 E	1 37 18 W	49 38 26 N
Chichester Spire	England	3 6 36 W	16 53 24 E	0 46 36 W	50 50 11 N
Christiana	Norway	8 29 0 E	28 29 0 E	10 49 0 E	59 55 20 N
St Christopher	Caribee Island	65 2 20 W	45 2 20 W	62 42 20 W	17 15 0 N
Civita Vecchia	Italy	9 24 30 E	29 24 30 E	11 44 30 E	42 5 24 N
Clapham Church	England	2 47 43 W	14 52 17 E	0 27 43 W	50 50 37 N
Cape Clear	Ireland	11 43 15 W	8 22 45 E	9 23 15 W	51 19 0 N
Clerk Isle	Bering's Strait	172 0 0 W	152 0 0 W	169 40 0 W	63 15 0 N
Clermont	France	0 45 7 E	20 45 7 E	3 5 7 E	45 46 45 N
Cochin	India	73 55 0 E	93 55 0 E	76 15 0 E	9 58 0 N
Cocos Isle, middle	Indian Ocean	94 3 0 E	114 3 0 E	96 23 0 E	12 11 0 S
Cologne	Germany	4 35 0 E	24 35 0 E	6 55 0 E	50 55 21 N
Cape Comoren	India	75 13 50 E	95 13 50 E	77 33 50 E	8 4 0 N
Conception Point	North America	122 27 15 W	102 27 15 W	120 7 15 W	34 30 30 N
Conception	Chili	75 25 0 W	55 25 0 W	73 5 0 W	36 49 10 S
Constantinople	Turkey	26 35 5 E	46 35 5 E	28 55 5 E	41 1 10 N
Copenhagen	Denmark	10 15 10 E	30 15 10 E	12 35 10 E	55 41 5 N
Copiapo	Chili	73 25 30 W	53 25 30 W	71 5 30 W	27 10 0 S
Coquimbo	Chili	73 39 30 W	53 39 30 W	71 19 30 W	29 54 40 S
Cordova	Spain	6 35 0 W	13 25 0 E	4 15 0 W	37 52 0 N
Corientes Cape	North America	107 40 15 W	87 40 15 W	105 20 15 W	20 22 0 N

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Corinth	Turkey	20 42 0 E	41 42 0 E	23 2 0 E	38 14 0 N
Cork	Ireland	10 48 15 W	9 11 45 E	8 28 15 W	51 53 54 N
Corvo Isle	One of the Azores	33 25 0 W	13 25 0 W	31 5 0 W	39 43 38 N
Cracow	Poland	17 36 0 E	37 36 0 E	19 56 0 E	50 4 0 N
Cremona	Italy	7 42 0 E	27 42 0 E	10 2 0 E	45 7 49 N
Cuba Island	East point of	76 35 0 W	56 35 0 W	74 15 0 W	20 5 0 N
Cummin Isle	China	118 44 0 E	138 44 0 E	121 4 0 E	31 40 0 N

D.

Dacca	India	88 9 0 E	108 9 0 E	90 29 0 E	23 45 0 N
Damascus	Syria	34 42 30 E	54 42 30 E	37 2 30 E	33 15 0 N
Damietta	Egypt	29 29 45 E	49 29 45 E	31 49 45 E	31 25 44 N
Dantzic	Prussia	16 18 45 E	36 18 45 E	18 38 45 E	54 21 5 N
Dardanelles	Turkey	24 30 0 E	44 30 0 E	26 50 0 E	40 11 24 N
St David's Head	Wales	7 24 3 W	12 35 57 E	5 4 3 W	51 56 18 N
Dax	Gascogne	3 23 15 W	16 36 45 E	1 3 15 W	43 42 23 N
Deception Cape	Solomon's Isles	154 42 14 E	174 42 14 E	157 2 14 E	8 32 30 S
Dehli	Indostan	75 20 0 E	95 20 0 E	77 40 0 E	28 37 18 N
Derbent	Persia	52 10 0 E	72 10 0 E	54 30 0 E	41 51 0 N
Desire Port	Magellanica	68 23 30 W	48 23 30 W	66 3 30 W	47 45 0 S
Desolation Isle	North point of	67 52 0 E	87 52 0 E	70 12 0 E	49 54 30 S
Diarbekir	Asia	37 4 0 E	57 4 0 E	39 24 0 E	37 54 0 N
Dijon	France	2 41 48 E	22 41 48 E	5 1 48 E	47 19 22 N
Diu	India	67 45 0 E	87 45 0 E	70 5 0 E	20 45 0 N
St Domingo	at Fort Louis	75 59 20 W	55 59 20 W	73 39 20 W	18 14 27 N
Dondra Head	Ceylon	78 18 0 E	98 18 0 E	80 38 0 E	5 52 0 N
Dorchester Ch.	England	4 45 40 W	20 44 47 E	2 25 40 W	50 41 57 N
Dordrecht.	United Provinces	2 18 17 E	12 54 20 E	4 38 17 E	51 47 52 N
Douay	Flanders	0 44 47 E	20 44 47 E	3 4 47 E	50 22 12 N
Dover	England	1 1 4 W	18 58 56 E	1 18 56 E	51 7 47 N
Dresden	Germany	11 16 0 E	31 16 0 E	13 36 0 E	51 2 54 N
Drontheim	Norway	8 2 0 E	28 2 0 E	10 22 0 E	63 26 12 N
Dublin	Ireland	8 39 0 W	11 21 0 E	6 19 0 W	53 21 11 N
Dundee	Scotland	5 22 30 W	14 37 30 E	3 2 30 W	56 27 0 N
Dungeness	England	1 22 15 W	18 37 45 E	0 57 45 E	50 52 20 N
Dunges-bay-head	Scotland	5 10 30 W	14 49 30 E	2 50 30 W	58 33 30 N
Dunkirk	Flanders	0 2 3 E	20 2 3 E	2 22 3 E	51 2 10 N
Durham	England	3 35 0 W	16 25 0 E	1 15 0 W	54 43 45 N

Longitudes and Latitudes of Places.

E.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Easter Island	Pacific Ocean	112 6 45 W	92 6 45 W	109 46 45 W	27 6 30 S
Eaterinburg	Siberia	58 30 0 E	78 30 0 E	60 50 0 E	56 50 15 N
Eddystone light house	England	6 35 3 W	13 24 57 E	4 15 3 W	50 10 54 N
Edgecumb Cape	North America	138 46 30 W	118 46 30 W	136 26 30 W	57 2 0 N
Edinburgh College	Scotland	5 32 10 W	14 27 50 E	3 12 10 W	55 57 5 N
Edward's, Pr. Isles	Indian Ocean	35 34 45 E	55 34 45 E	37 54 45 E	46 46 0 S
Elizabeth Cape	North America	153 27 15 W	133 27 15 W	151 7 15 W	59 9 0 N
Elsinore	Denmark	10 17 48 E	30 17 48 E	12 37 48 E	56 2 15 N
Endeavour River	New Holland	142 50 0 E	162 50 0 E	145 10 0 E	15 27 11 S
Embden	Germany	4 43 30 E	24 43 30 E	7 3 30 E	53 17 30 N
Ephesus	Natolia	25 10 0 E	45 10 0 E	27 30 0 E	37 55 0 N
Erzerom	Armenia	46 15 45 E	66 15 45 E	48 35 45 E	39 56 35 N
Eustatia	Island and Town	65 22 0 W	45 22 0 W	63 2 0 W	17 29 0 N
Evreux	France	1 11 6 W	18 48 54 E	1 8 45 E	49 1 30 N
Exeter	England	5 54 30 W	14 5 30 E	3 34 30 W	50 54 0 N

F.

Fairhill	Orkney	4 14 0 W	15 46 0 E	1 54 0 W	59 28 0 N
Falkland	Islands	63 30 0 W	43 30 0 W	61 10 0 W	51 45 0 S
Falmouth	England	7 23 30 W	12 33 30 E	5 3 0 W	50 8 0 N
Cape Farewell	Greenland	45 2 0 W	25 2 0 W	42 42 0 W	59 38 0 N
Fayal Isle	Azores	31 0 54 W	11 0 54 W	28 40 54 W	38 32 24 N
Fernandez Isle	South Sea	80 53 0 W	60 53 0 W	78 33 0 W	33 39 36 N
Fernando-Po	Atlantic Ocean	6 20 0 E	26 20 0 E	8 40 0 E	3 28 0 N
Ferrara	Italy	9 16 10 E	29 16 10 E	11 36 10 E	44 49 56 N
Ferro Isle	Atlantic	20 0 0 W	0 0 0	17 40 0 W	27 45 0 N
Fez	Morroco	7 15 7 W	12 44 53 E	4 55 7 W	33 32 5 N
Cape Finisterre	Spain	11 36 15 W	8 21 30 E	9 16 15 W	42 53 52 N
Flores	Azores	33 31 24 W	13 21 24 W	31 11 24 W	39 26 20 N
Florence	Italy	8 43 30 E	28 43 30 E	11 3 30 E	43 46 30 N
Flushing	Holland	1 14 9 E	21 14 9 E	3 34 9 E	51 26 37 N
Fontarabia	Spain	4 7 15 W	15 52 45 E	1 47 15 W	43 21 36 N
Fontainbleau	France	0 21 8 E	20 21 8 E	2 41 8 E	48 24 4 N
Foreland S. light house	England	0 57 54 W	16 42 6 E	1 22 6 E	51 8 26 N
Cape Formosa	Africa	5 15 0 E	25 15 0 E	7 35 0 E	4 30 0 N
Fortaventura	Canaries	16 51 30 W	3 30 0 E	14 31 30 W	28 4 0 N
Fort Philip	Minorca	1 36 3 E	21 36 3 E	3 56 3 E	29 50 8 N
Fort Royal	Martinico	63 27 18 W	43 27 18 W	61 7 18 W	14 15 54 N
Foul Point	Madagascar	47 33 0 E	67 33 0 E	49 53 0 E	17 40 14 S

Longitudes

Longitudes and Latitudes of Places.

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		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg Min. Sec.
France, Isle de	Indian Ocean	55 11 35 E	75 11 35 E	57 31 35 E	20 9 45 S
Cape Francis	Domingo	74 38 0 W	54 38 0 W	72 18 0 W	19 47 4 N
Frankfort on the Main	Germany	6 15 45 E	26 15 45 E	8 35 45 E	50 7 40 N
——— on the Oder	Germany	12 25 0 E	32 25 0 E	14 45 0 E	52 22 8 N
Frejus	France	4 23 54 E	24 23 54 E	6 45 54 E	43 25 52 N
Fuego Isle	Verd Islands	26 42 12 W	6 42 12 W	24 22 12 W	14 57 18 N
Fulda	Germany	7 23 45 E	27 23 45 E	9 43 45 E	50 33 57 N
Funchal	Madeira	19 16 0 W	0 44 0 E	16 56 0 W	32 37 34 N

G.

Gaeta	Naples	11	10	5 W	8	49	55 E	8	50	6 W	41	14	2 N
Galle, Cape	Ceylon	77	59	20 E	99	59	20 E	80	19	20 E	6	1	0 N
Gaza	Palestine	32	25	36 E	52	25	26 E	34	45	36 E	31	30	24 N
Geneva	Switzerland	3	48	30 E	23	48	30 E	6	8	30 E	46	12	17 N
Genoa	Italy	6	38	0 E	26	38	0 E	8	58	0 E	44	25	0 N
George, Cape	Kergulen Isle	67	52	0 E	87	52	0 E	70	12	0 E	49	54	30 S
St George's Isle	Azores	30	30	0 W	10	30	0 W	28	10	0 W	38	50	0 N
Ghent	Low Countries	1	23	20 E	21	23	20 E	3	43	20 E	51	3	15 N
Gibraltar	Spain	7	39	46 W	12	20	14 E	5	19	46 W	36	4	44 N
Glasgow	Scotland	6	36	0 W	13	24	0 E	4	16	0 W	55	51	32 N
Port-Glasgow	Scotland	6	58	0 W	13	2	0 E	4	38	0 W	55	56	0 N
Gluchow	Russia	32	0	0 E	52	0	0 E	34	20	0 E	51	40	30 N
Goa	India	71	38	0 E	91	38	0 E	73	58	0 E	15	28	20 N
Gomera Isle	Canaries	19	28	0 W	0	32	0 E	17	8	0 W	28	5	40 N
Gomron	Persia	54	24	0 E	74	24	0 E	56	44	0 E	27	7	0 N
Goree Isle	Atlantic	19	44	30 W	0	15	30 E	17	24	30 W	14	40	5 N
Gottenburg	Sweden	9	37	30 E	29	37	30 E	11	57	30 E	57	42	0 N
Gottingen	Lower Saxony	7	34	0 E	27	34	0 E	9	54	0 E	51	31	54 N
Gouda	Un. Provinces	2	20	54 E	22	20	54 E	4	40	54 E	51	59	51 N
Gratz	Stiria	13	5	45 E	33	5	45 E	15	25	45 E	47	4	8 N
Gravesend	England	1	57	0 W	18	3	0 E	0	23	0 E	51	27	0 N
Greenock	Scotland	7	3	0 W	12	57	0 E	4	43	0 W	55	57	0 N
Greenwich Observ.	England	2	20	0 W	17	40	0 E	0	0	0	51	28	40 N
Grenada	at Fort Royal	64	11	15 W	44	11	15 W	61	51	15 W	12	2	54 N
Grenoble	France	3	23	30 E	23	23	30 E	5	43	30 E	45	11	49 N
Groin	Spain	11	12	0 W	8	48	0 E	8	52	0 W	43	50	0 N
Guadaloupe at Basse Terre	Caribees	64	8	15 W	44	8	15 W	61	48	15 W	15	59	30 N
Cape Guardafan	Africa	50	6	0 E	70	6	0 E	52	26	0 E	11	50	0 N
Guayaquil	Peru	81	40	52 W	81	40	52 W	79	20	52 W	2	11	20 N
Guernsey	Brit. Channel	4	55	0 W	15	5	0 E	2	35	0 W	49	25	0 N
Gurief	Tartary	49	39	0 E	69	39	0 E	51	39	0 E	47	7	7 N

Longitudes and Latitudes of Places.

H.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Hague	Holland	1 56 25 E	21 56 25 E	4 16 25 E	52 3 13 N
Haguenau	Alsace	5 26 36 E	25 26 36 E	7 46 36 E	48 48 42 N
Halifax	Nova Scotia	65 56 0 W	45 56 0 W	63 36 0 W	44 44 0 N
Hall	Saxony	9 37 54 E	29 37 54 E	11 57 54 E	51 30 0 N
Halmstadt	Sweden	10 31 45 E	30 31 45 E	12 51 45 E	56 39 45 N
Hamburgh	Lower Saxony	7 38 0 E	27 38 0 E	9 58 0 E	53 34 8 N
Hamersfort	Norway	21 23 35 E	41 23 35 E	23 43 35 E	70 38 42 N
Hami	Tartary	91 34 0 E	111 34 0 E	93 54 0 E	42 53 18 N
Hanover	Germany	7 24 15 E	27 24 15 E	9 44 15 E	52 22 18 N
Harlem	Holland	2 15 0 E	22 15 0 E	4 35 0 E	52 22 14 N
Harwich	England	1 0 0 W	19 0 0 E	1 20 0 E	51 55 0 N
Havannah	Cuba	84 28 36 W	64 28 36 W	82 8 36 W	23 11 54 N
Havre de Grace	France	2 13 37 W	17 46 23 E	0 6 23 E	45 29 14 N
Hawkhill	Scotland	5 32 45 W	14 27 15 E	3 12 45 W	55 58 0 N
Hebrides	South point of	167 2 5 E	187 2 5 E	169 22 5 E	19 32 25 S
	North point of	164 28 0 E	184 28 0 E	166 48 0 E	14 39 30 S
Heidleberg	Germany	6 21 23 E	26 21 23 E	8 41 23 E	49 24 30 N
St Helena Isle	Atlantic Ocean	8 3 30 W	11 56 30 E	5 43 30 W	15 55 0 S
Heraclea	Turkey	25 34 19 E	45 34 19 E	27 54 19 E	41 1 3 N
Hernosand	Sweden	15 30 15 E	35 30 15 E	17 50 15 E	62 38 0 N
Hervey, Isle	Pacific Ocean	161 16 20 W	141 16 20 W	158 56 20 W	19 17 0 S
Hogue, Cape	France	0 23 10 E	20 23 10 E	1 56 50 W	49 44 40 N
Holy Head	Anglesey	7 0 0 W	13 0 0 E	4 40 0 W	53 23 0 N
Honfleur	France	0 44 52 E	20 44 52 E	3 4 52 E	49 25 13 N
Cape Horn	South America	69 46 0 W	49 46 0 W	67 26 0 W	55 58 30 N
Hunaheine Isle	Pacific Ocean	153 26 0 W	133 26 0 W	151 6 0 W	16 44 0 S
Hurst Castle	England	0 47 15 E	16 52 45 E	1 32 45 W	50 42 23 N
Husum	Denmark	6 44 7 E	26 44 7 E	9 4 7 E	54 28 48 N
Hydrabad	India	76 30 0 E	96 30 0 E	78 50 0 E	17 12 0 N

I. J.

Jackson, Port	New Holland	148 53 30 E	168 53 30 E	151 13 30 E	33 52 30 S
Jago	Verd Islands	26 6 0 W	6 6 0 W	23 46 0 W	15 5 0 N
Jakutsk	Siberia	127 23 15 E	147 23 15 E	129 43 15 E	62 1 50 N
Jamaica	at Port-Royal	79 4 30 W	59 4 30 W	76 44 30 W	18 0 0 N
Janeiro Rio	Brasil	45 30 45 W	25 30 45 W	43 10 45 W	22 54 10 S
Jassey	Moldavia	25 10 0 E	45 10 0 E	27 30 0 E	47 8 32 N
Java Island	East point of	102 46 0 E	122 46 0 E	105 6 0 E	6 48 0 N
Iceland	North point of	25 20 0 W	5 20 0 E	23 0 0 W	67 0 0 N
Icy Cape	Beering's Strait	163 2 30 W	143 2 30 W	161 42 30 W	70 29 0 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Jeniseisk	Siberia	89 38 30 E	109 38 30 E	91 58 30 E	58 27 17 N
Jersey at St Helier	Brit. Channel	4 30 59 W	15 29 1 E	2 10 59 W	49 12 59 N
Jerusalem	Palestine	33 0 0 E	53 0 0 E	35 20 0 E	31 46 0 N
Ingolstadt	Germany	9 4 45 E	29 4 45 E	11 24 45 E	48 45 50 N
Inichi	Turkey	31 36 15 E	51 36 15 E	33 56 15 E	42 0 26 N
Inspruck	Tyrol	9 3 34 E	29 3 34 E	11 23 34 E	47 15 50 N
Irkutsk	Siberia	102 13 30 E	122 13 30 E	104 33 30 E	52 18 15 N
Islamabad	Indies	89 25 0 E	109 25 0 E	91 45 0 E	22 20 0 N
Ispahan	Persia	49 30 0 E	69 30 0 E	51 50 0 E	32 24 34 N
Issoudin	France	0 20 8 W	19 39 52 E	1 59 52 E	46 56 9 N
Iverdun	Switzerland	4 18 0 E	24 18 0 E	6 38 0 E	46 46 48 N
St Julian, Port	Magellanica	70 3 30 W	50 3 30 W	67 43 30 W	49 8 0 S

K.

Kamtshatkoi-noss	Siberia	161 2 30 E	181 2 30 E	163 22 30 E	56 1 0 N
Kasan	Siberia	47 9 30 E	67 9 30 E	49 29 30 E	55 43 58 N
Kerson	Tartary	30 36 15 E	50 36 15 E	32 56 15 E	46 38 30 N
Kiam-tcheou	China	109 9 15 E	129 9 15 E	111 29 15 E	35 37 0 N
Kingston	Jamaica	79 26 15 W	59 26 15 W	77 6 15 W	17 48 0 N
Kiow	Ukraine	28 7 30 E	48 35 0 E	30 27 30 E	50 27 10 N
Kirk-Newton	Scotland	5 50 15 W	14 9 45 E	3 30 15 W	55 54 30 N
Kola	Lapland	30 41 30 E	50 41 30 E	33 1 30 E	68 52 28 N
Konigsberg	Prussia	18 9 0 E	38 9 0 E	20 29 0 E	54 42 10 N
Krotonotskoi-noss	Siberia	159 53 30 E	179 53 30 E	162 13 30 E	54 42 0 N

L.

Ladrone Isle	Indian Ocean	111 36 0 E	131 36 0 E	113 56 0 E	22 2 0 N
Lagos	Portugal	11 9 18 W	8 50 42 E	8 49 18 W	37 6 0 N
Lahore	India	71 30 0 E	91 30 0 E	73 50 0 E	31 50 0 N
Lampsaco	Turkey	24 16 20 E	44 16 20 E	26 36 20 E	40 20 52 N
Landscroon	Sweden	10 26 30 E	30 26 30 E	12 46 30 E	55 52 20 N
Lands-end	England	8 1 31 W	11 58 29 E	5 41 31 W	50 4 7 N
Lancarota, Isle	Canaries	15 46 0 W	4 14 0 E	13 26 0 W	29 14 0 N
Langres	Champagne	2 59 23 E	22 59 23 E	5 19 23 E	47 52 17 N
Lassa	Thibet	89 10 0 E	109 10 0 E	91 30 0 E	30 33 0 N
Laubach	Carniola	12 26 12 E	32 26 12 E	14 46 12 E	46 2 0 N
Lausanne	Switzerland	4 25 15 E	24 25 15 E	6 45 15 E	46 31 6 N
Leeds	England	3 58 30 W	16 1 30 E	1 38 30 W	53 48 0 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Leghorn	Italy	7 56 0 E	27 56 0 E	10 16 0 E	43 33 2 N
Leicester	England	3 28 45 W	16 31 15 E	1 8 45 W	52 38 0 N
Leipsick	Upper Saxony	10 0 30 E	30 0 30 E	12 20 30 E	51 22 22 N
Leyden	Holland	2 7 0 E	22 7 0 E	4 27 0 E	52 8 40 N
Liege	Germany	3 11 27 E	23 11 27 E	5 31 27 E	50 39 22 N
Lillie	Flanders	0 44 0 E	20 44 0 E	3 4 0 E	50 37 0 N
Lima	Peru	79 14 0 W	59 14 0 W	76 54 0 W	12 1 56 S
Limoges	France	1 4 7 W	18 55 53 E	1 15 53 E	45 49 44 N
Lincoln	England	2 50 0 E	17 10 0 E	0 30 0 W	53 15 0 N
Lintz	Austria	11 37 30 E	31 37 30 E	13 57 30 E	48 16 0 N
Lisbon, at the Oratory	Portugal	11 29 15 W	8 30 45 E	9 9 15 W	38 42 20 N
Liverpool	England	5 16 45 W	14 43 15 E	2 56 45 W	53 27 0 N
Lizard Cape	England	7 32 0 W	12 28 0 E	5 12 0 W	49 57 50 N
Lodi	Italy	7 10 37 E	27 10 37 E	9 30 37 E	45 18 31 N
Loheia	Arabia	39 48 30 E	59 48 30 E	42 8 30 E	15 42 8 N
London, St Paul's	England	2 25 47 W	17 34 13 E	0 5 47 W	51 31 0 N
Londonderry	Ireland	9 34 49 W	10 25 11 E	7 14 49 W	54 59 28 N
Long Island	America	71 4 0 W	51 4 0 W	68 44 0 W	44 17 7 N
Lopatka	Kamtshatka	154 22 30 E	174 25 0 E	156 42 30 E	51 0 15 N
Loretto	Italy	11 14 50 E	31 14 50 E	13 34 50 E	43 17 0 N
Lorient	France	5 41 17 W	14 18 43 E	3 21 17 W	47 45 11 N
Louisburg	America	62 19 0 W	42 19 0 W	59 59 0 W	45 53 40 N
Louvain	Netherlands	2 21 32 E	22 21 32 E	4 41 32 E	50 53 26 N
St Lucia	Verd Islands	27 0 0 W	7 0 0 W	24 40 0 W	16 55 54 N
Lucia Isle	Antilles	63 20 0 W	43 20 0 W	61 0 0 W	13 24 30 N
Lunden	Sweden	10 52 27 E	30 52 27 E	13 12 27 E	55 42 26 N
Luxemburg	Low Countries	3 53 45 E	23 53 45 E	6 13 45 E	49 37 20 N
Lyon	France	2 29 9 E	22 29 9 E	4 49 9 E	45 45 52 N

M.

Macao	China	111 15 0 E	131 15 0 E	113 35 0 E	22 12 24 N
Macassar	Celebes	117 28 45 E	137 28 45 E	119 48 45 E	5 9 0 S
Maestricht	Low Countries	3 20 46 E	23 20 46 E	5 40 46 E	50 51 7 N
Madras	India	78 5 0 E	98 5 0 E	80 25 0 E	13 4 54 N
Madrid	Spain	5 58 30 W	14 1 30 E	3 38 30 W	40 25 18 N
Magdeburg	Lower Saxony	9 19 1 E	29 19 1 E	11 39 1 E	52 9 9 N
Strait of Magellan	East extremity	70 13 55 W	50 13 55 W	67 53 55 W	52 23 0 S
	West extremity	76 37 55 W	56 37 55 W	74 17 55 W	53 4 10 S
Mahon	Minorca	1 28 30 E	21 28 30 E	3 48 30 E	39 51 46 N
Majorca	Majorca	0 9 45 E	20 9 45 E	2 29 45 E	39 35 0 N
Malacca	India	99 48 0 E	119 48 0 E	102 8 0 E	2 12 0 N

Longitudes

Longitudes and Latitudes of Places.

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		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Malaga	Spain	6 44 15 W	13 15 45 E	4 22 15 W	36 43 30 N
Maldonado	Paraguay	57 11 20 W	37 11 20 W	54 57 20 W	34 56 19 S
Mallicola, Isle	Pacific Ocean	165 19 15 E	185 19 15 E	167 39 15 E	16 15 30 S
St Malo	France	4 21 22 W	15 38 38 E	2 1 22 W	48 39 0 N
Malta	Malta	12 10 30 E	32 10 30 E	14 30 30 E	35 54 0 N
Man, I. west extremity	England	7 10 0 W	12 50 0 E	4 50 0 W	54 5 0 N
Manchester	England	4 35 0 W	15 25 0 E	2 15 0 W	53 26 0 N
Mangalore	Malabar	72 37 24 E	92 37 24 E	74 57 24 E	11 50 0 N
Manheim	Germany	6 7 30 E	26 7 30 E	8 27 30 E	49 28 58 N
Manilla	Phillippine Isles	118 31 0 E	138 31 0 E	120 51 0 E	14 36 8 N
Mantua	Italy	8 28 10 E	28 28 10 E	10 48 10 E	49 9 16 N
Marseille	France	3 2 8 E	23 2 8 E	5 22 8 E	43 17 45 N
St Martha	Terra Firma	76 24 30 W	56 24 30 W	74 4 30 W	11 19 53 N
Martinico Isle	West Indies	63 41 16 W	43 41 16 W	61 21 16 W	14 35 55 N
St Mary Isle	Azores	27 38 45 W	7 38 45 W	25 18 45 W	36 56 47 N
Maskelyne Isle	New Hebrides	165 39 15 E	185 39 15 E	167 59 15 E	16 32 0 S
Masulipatam	Indostan	78 52 0 E	98 52 0 E	81 12 0 E	16 8 30 N
Matapan Cape	Turkey	20 9 15 E	40 9 15 E	22 29 15 E	36 23 20 N
Mayenne	France	2 57 1 W	17 2 59 E	0 37 1 W	48 18 4 N
Meaux	France	0 32 35 E	20 32 35 E	2 52 35 E	48 57 37 N
Mecca	Arabia	37 49 0 E	57 49 0 E	40 9 0 E	21 40 12 N
Mechlin	Low Countries	2 8 45 E	22 8 45 E	4 28 45 E	51 2 0 N
Medina	Arabia	36 33 30 E	56 33 30 E	38 53 30 E	24 46 6 N
Mentz	Germany	5 36 8 E	25 36 8 E	7 56 8 E	49 59 4 N
Mercury Bay	New Zealand	173 46 20 E	193 46 20 E	176 6 20 E	36 48 0 N
Mergui	Siam	95 59 0 E	115 59 0 E	98 19 0 E	12 10 30 N
Messina	Sicily	13 28 48 E	33 28 48 E	15 48 48 E	38 11 12 N
Metz	France	8 50 13 E	28 50 13 E	6 10 13 E	49 7 10 N
Mexico	South America	102 1 45 W	82 1 45 W	99 41 45 W	19 25 0 N
Michael, Isle	Azores	28 2 0 W	8 2 0 W	25 42 0 W	37 47 0 N
Middleburg	Zeeland	1 17 35 E	21 17 35 E	3 37 35 E	51 30 6 N
Milan Observatory	Italy	6 51 15 E	26 51 15 E	9 11 15 E	45 28 5 N
Mittaw	Courland	21 23 0 E	41 23 0 E	23 43 0 E	56 39 10 N
Moka	Arabia	40 50 0 E	60 50 0 E	43 10 0 E	13 16 0 N
Modena	Italy	8 52 30 E	28 52 30 E	11 12 30 E	44 34 8 N
Mona Isle	West Indies	70 9 45 W	50 9 45 W	67 49 45 W	18 6 0 N
Mondego	Portugal	11 7 6 W	8 52 54 E	8 47 6 W	40 8 42 N
Mons	Netherlands	1 37 15 E	21 37 15 E	3 57 15 E	50 27 2 N
Monserrat	West Indies	64 47 40 W	44 47 40 W	62 27 40 W	16 48 0 N
Montauban	France	0 59 9 W	19 0 51 E	1 50 51 E	44 0 50 N
Montevideo	Paraguay	58 34 45 W	38 34 45 W	56 14 45 W	34 54 48 S
Montpellier	France	1 32 25 E	21 32 25 E	3 52 25 E	43 26 29 N
Mont St Elias	America	142 57 35 W	122 57 35 W	140 37 35 W	60 21 0 N

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		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Moscow	Russia	35 26 15 E	55 26 15 E	37 46 15 E	55 45 20 N
Mosul	Algezira	42 23 0 E	62 23 0 E	44 43 0 E	36 5 0 N
Moultan	India	69 1 0 E	89 1 0 E	71 21 0 E	30 35 0 N
Mosambique	Africa	38 34 0 E	58 34 0 E	40 54 0 E	14 58 0 N
Munich	Germany	9 14 0 E	29 14 0 E	11 34 0 E	48 8 20 N

N.

Nagpour	Indostan	77 26 0 E	97 26 0 E	79 46 0 E	21 9 0 N
Nancy	France	3 50 33 E	23 50 33 E	6 10 33 E	48 41 58 N
Nangasachi	Japon	127 32 0 E	147 32 0 E	129 52 0 E	32 44 50 N
Namur	Netherlands	2 27 47 E	22 27 47 E	4 47 47 E	50 28 0 N
Nanking	China	116 27 0 E	136 27 0 E	118 47 0 E	32 4 40 N
Nantes	France	3 53 8 W	16 6 52 E	1 33 8 W	47 13 7 N
Naples	Italy	11 51 30 E	31 51 30 E	14 11 30 E	40 50 15 N
Narbonne	France	0 40 5 E	20 40 5 E	3 0 5 E	43 11 0 N
Negapatam	Indostan	77 34 35 E	97 34 35 E	79 54 25 E	10 40 0 N
Cape Negro	Africa	10 7 0 E	30 7 0 E	12 27 0 E	16 5 0 N
Nevers	France	0 49 16 E	20 49 16 E	3 9 6 E	46 59 13 N
Neustadt	Austria	13 53 12 E	33 53 12 E	16 13 12 E	47 50 6 N
Newcastle	England	3 50 0 E	16 10 0 E	1 30 0 W	55 3 0 N
Niagara Fort	North America	80 44 6 W	60 44 6 W	78 24 6 W	43 27 30 N
St Nicolas Isle	Verd Islands	26 30 0 W	6 30 0 W	24 10 0 W	16 40 0 N
Nice	Italy	4 56 12 E	24 56 12 E	7 16 21 E	43 41 46 N
Nimes	France	1 58 41 E	21 58 41 E	4 18 41 E	43 50 15 N
Cape Non	Africa	8 10 0 E	28 10 0 E	10 30 0 E	37 7 0 N
Nootka	America	129 2 14 W	149 2 14 W	126 42 14 W	49 36 6 N
Norfolk, Isle	Pacific Ocean	165 50 0 E	185 50 0 E	168 10 0 E	29 1 45 S
Cape North	Lapland	23 30 0 E	43 30 0 E	25 50 0 E	71 10 30 N
Cape North	New Zeeland	170 15 0 E	190 15 0 E	172 35 0 E	34 22 0 S
Cape North	Asia	178 20 0 E	198 20 0 E	180 0 0 E	68 56 0 N
Norton's Sound	Beering's Strait	165 7 30 W	185 7 30 W	162 47 30 W	64 30 30 N
Norwich	England	3 40 0 W	16 20 0 E	1 20 0 E	52 41 30 N
Noyon	France	0 40 0 E	20 40 0 E	3 0 0 E	49 34 57 N
Nuremberg	Germany	8 40 45 E	28 40 45 E	11 0 45 E	49 26 55 N

Longitudes

Longitudes and Latitudes of Places.

O.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Ochatz	Tartary	140 52 30 E	160 52 30 E	143 12 30 E	59 20 10 N
Oheteroa, Isle	Pacific Ocean	153 8 45 W	133 8 45 W	150 48 45 W	22 26 36 S
Ohitahoo, Isle	Marquesas	141 28 40 W	121 28 40 W	139 8 40 W	9 55 30 S
Oland, Cape North	Sweden	14 46 15 E	34 46 15 E	17 6 15 E	57 22 20 N
Oleron	Bay of Biscay	2 56 30 W	17 3 30 E	0 36 30 W	46 2 50 N
Olonne	France	4 7 5 W	15 52 55 E	1 47 5 W	46 29 52 N
Oonalashka	America	168 42 0 W	148 42 0 W	166 22 0 W	53 54 45 N
Oporto	Portugal	10 42 0 W	9 18 0 W	8 22 0 W	41 10 0 N
Oran	Africa	2 59 39 W	17 0 21 E	0 39 39 E	35 44 27 N
Orenburg	Russia	52 47 30 E	72 47 30 E	55 7 30 E	51 46 5 N
Orford-ness	England	0 51 59 W	19 8 1 E	1 28 1 E	52 4 30 N
Orkney Isles	North point of	4 59 0 W	15 1 0 E	2 39 0 W	59 18 0 N
Orleans	France	0 25 33 W	19 34 27 E	1 54 27 E	47 54 10 N
	Louisiana	92 18 45 W	72 18 45 W	89 58 45 W	29 57 45 N
Ormuz Isle	Persia	54 14 0 E	74 34 0 E	56 34 0 E	26 27 0 N
Cape Ortegal	Spain	10 8 0 W	9 52 0 E	8 48 0 W	43 46 37 N
Osnabruck	Germany	5 27 28 E	25 27 28 E	7 47 28 E	52 16 14 N
Ostend	Flanders	0 35 0 E	20 35 0 E	2 55 0 E	51 14 0 N
Ostia	Italy	9 56 20 E	29 56 20 E	12 16 20 E	41 45 35 N
Oude	India	80 5 0 E	100 5 0 E	82 25 0 E	26 45 0 N
Ougein	India	73 30 0 E	93 30 0 E	75 50 0 E	23 14 0 N
Ouessant Isle	France	7 24 33 W	12 35 27 E	5 4 33 W	48 28 30 N
Owhyhee Isle, N. point	Sandwich Isles	158 19 0 W	138 19 0 W	155 59 0 W	20 17 0 N
Oxford Observatory	England	3 35 0 W	16 25 0 E	1 15 0 W	51 45 39 N

P.

Padua	Italy	9 33 0 E	29 33 0 E	11 53 0 E	45 23 40 N
Palma, Isle	Canaries	20 18 0 W	0 18 0 W	17 58 0 W	28 38 0 N
Palermo	Sicily	11 1 30 W	8 58 30 E	8 41 30 W	38 6 45 N
Palliser's Isles	Pacific Ocean	148 50 15 W	128 50 15 W	146 30 15 W	15 38 15 S
Palos, Cape	France	3 1 15 W	16 58 45 E	0 41 15 W	37 37 15 N
Panama	Terra Firma	82 35 15 W	62 35 15 W	80 15 15 W	8 58 12 N
Para	South America	51 0 0 W	31 0 0 W	48 40 0 W	1 28 0 S
Paris Observatory	France	0 0 0	20 0 0 E	2 20 0 E	48 50 15 N
Parma	Italy	8 0 19 E	28 0 19 E	10 20 19 E	44 48 0 N
Patna	India	83 0 0 E	103 0 0 E	85 20 0 E	25 38 0 N
Passau	Bavaria	11 5 7 E	31 5 7 E	13 25 7 E	48 36 3 N
Patrisfiord	Iceland	26 30 0 W	6 30 0 W	24 10 0 W	65 35 45 N

Longitudes and Latitudes of Places.

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		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Pavia	Italy	6 51 30 E	26 51 30 E	9 11 30 E	45 10 59 N
Peak, Isle	Azores	30 30 0 W	10 30 0 W	28 10 0 W	38 37 0 N
Pegu	India	94 28 0 E	114 28 0 E	96 48 0 E	18 8 0 N
Pekin	China	114 4 50 E	134 4 50 E	116 24 50 E	39 54 43 N
Pelew Isles	Chinese Seas	132 20 0 E	152 20 0 E	134 40 0 E	7 19 0 N
Pello	Lapland	21 33 15 E	41 33 15 E	23 58 15 E	66 48 16 N
Pelusium	Africa	30 30 0 E	50 30 0 E	32 50 0 E	31 5 36 N
Cape Pembroke	Hudson's Bay	84 19 0 W	64 19 0 W	81 59 0 W	62 57 0 N
Perpignan	France	0 33 33 E	20 33 33 E	2 53 33 E	42 41 55 N
St Peter and Paul	Atlantic	156 24 30 E	176 24 30 E	158 44 30 E	10 34 58 N
Petersburg	Russia	27 59 15 E	47 59 15 E	30 19 15 E	59 56 23 N
Philadelphia	Pensylvania	77 34 0 W	57 34 0 W	75 14 0 W	39 56 55 N
Pico	Azores	30 48 30 W	10 48 30 W	28 28 30 W	38 26 52 N
Pines, Isle of	N. Caledonia	165 18 0 E	185 18 0 E	167 38 0 E	22 38 0 S
Pisa	Italy	8 3 45 E	28 3 45 E	10 23 45 E	43 43 7 N
Pitcairn Isle	Pacific Ocean	135 41 0 W	115 41 0 W	133 21 0 W	25 22 0 S
Pondicherry	India	77 31 30 E	97 31 30 E	79 51 30 E	11 55 41 N
Poonah	Indostan	71 35 0 E	91 35 0 E	73 55 0 E	18 33 0 N
Plymouth	England	6 32 45 W	13 27 15 E	4 12 45 W	50 22 30 N
Poitiers	France	1 59 12 W	18 0 48 E	0 20 48 E	46 34 50 N
Porto	Portugal	10 35 10 W	9 24 50 E	8 15 10 W	41 46 44 N
Porto Bello	Mexico	82 10 20 W	62 10 20 W	79 50 20 W	9 33 5 N
Porto Santo	Atlantic Ocean	18 37 30 W	1 22 30 E	16 17 30 W	33 5 0 N
Pondichery	Indostan	77 35 40 E	97 35 40 E	79 55 40 E	11 55 41 N
Portland Isle	North Sea	21 14 0 W	1 14 0 W	18 54 0 W	63 22 0 N
Porto Rico	Antilles	68 11 0 W	48 11 0 W	65 51 0 W	18 29 0 N
Port Louis	France	5 41 14 W	14 18 46 E	3 21 14	47 42 47 N
Port Royal	Jamaica	79 4 45 W	59 4 45 W	76 44 45 W	18 0 0 N
Porto Sancto	Atlantic	18 21 48 W	1 38 12 E	16 1 48 W	33 10 18 N
Portsmouth	England	3 26 15 W	16 33 45 E	1 6 15 W	50 48 0 N
Portsmouth	United States	73 3 15 W	53 3 15 W	70 43 15 W	43 4 15 N
Prague	Bohemia	12 5 10 E	32 5 10 E	14 25 10 E	50 53 4 N
Praya	St Jago	25 50 0 W	5 50 0 W	23 30 0 W	14 53 30 N
Presburg	Hungary	14 50 30 E	34 50 30 E	17 10 30 E	48 8 0 N
Cape Prince of Wales	America	170 37 30 W	150 37 30 W	168 17 30 W	65 45 30 N
Prince's Isle	Africa	5 20 0 E	25 20 0 E	7 40 0 E	1 37 0 N
	Java	102 54 30 E	122 54 30 E	105 14 30 E	6 35 15 S
Fort Prince of Wales	Hudson Bay	96 27 0 W	76 27 0 W	94 7 0 W	58 47 30 N
Providence	New England	73 42 0 W	53 42 0 W	71 22 0 W	41 50 41 N
Pulo Aor	Indian Ocean	102 21 0 E	122 21 0 E	104 41 0 E	2 42 0 N
Puerto Santo	Atlantic	18 45 15 W	1 14 45 W	16 25 15 W	32 58 15 N
Pulo Condor	Indian Ocean	103 37 0 E	123 37 0 E	105 57 0 E	8 40 0 N

Longitudes

Longitudes and Latitudes of Places.

Q.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Quebec	Canada	73 25 29 W	53 25 29 W	71 5 29 W	46 48 38 N
Cape Quiros	Espiritu Santo	165 0 0 E	185 0 0 E	167 20 0 E	14 56 8 S
Quito	Peru	80 30 15 W	60 30 15 W	78 10 15 W	0 13 27 S

R.

Ramsgate	England	1 15 19 W	18 44 41 E	1 24 41 E	51 19 31 N
Rastadt	Swabia	5 45 5 E	25 45 5 E	8 5 5 E	48 51 9 N
Raz-al-gat	Arabia	57 52 6 E	77 52 6 E	60 12 6 E	22 31 0 N
Ratisbon	Germany	9 46 30 E	29 46 30 E	12 6 30 E	48 59 51 N
Ravenna	Italy	9 50 36 E	29 50 36 E	12 10 36 E	44 25 5 N
Rennes	France	4 1 3 W	15 58 57 E	1 41 3 W	48 6 48 N
Resolution Bay	Marquesas	136 48 40 W	116 48 40 W	139 8 40 W	9 55 30 S
Resolution Cape	Hudson's Bay	67 30 0 W	47 30 0 W	65 10 0 W	61 29 0 N
Revel	Russia	22 19 15 E	42 19 15 E	24 39 15 E	59 26 24 N
Rheims	France	1 41 48 E	21 41 48 E	4 1 48 E	49 15 16 N
Rhodes	Natolia	26 0 0 E	46 0 0 E	28 20 0 E	36 28 30 N
Riga	Livonia	21 42 30 E	41 42 30 E	24 2 30 E	56 56 24 N
Rimini	Italy	10 12 30 E	30 12 30 E	12 32 30 E	44 3 43 N
Rio Janeiro	Brasil	45 30 45 W	25 30 45 W	43 10 45 W	22 54 10 N
Rochefort	France	3 17 49 W	16 42 11 E	0 57 49 W	45 56 15 N
Rochelle	France	3 29 5 W	16 30 55 E	1 9 5 W	46 9 21 N
Rodez	France	0 14 20 E	20 14 20 E	2 34 20 E	44 20 59 N
Rodosto	Turkey	25 5 16 E	45 5 16 E	27 25 16 E	40 58 34 N
Rodriguez Isle	Indian Ocean	60 49 0 E	80 49 0 E	63 9 0 E	19 40 40 S
Rome, St Peter	Italy	10 7 40 E	30 7 40 E	12 27 40 E	41 53 54 N
Ronaldsha	Orkney Isles	5 5 30 W	14 54 30 E	2 45 30 W	59 20 0 N
Rosetta	Egypt	28 8 36 E	48 8 36 E	30 28 36 E	31 24 34 N
Rotterdam	Holland	2 8 0 E	22 8 0 E	4 28 0 E	51 53 58 N
Rouen	France	1 14 16 W	18 46 44 E	1 5 44 E	49 26 27 N
Ruttunpour	Berar	80 16 0 E	100 16 0 E	82 36 0 E	22 16 15 N

S.

Saintes	France	2 57 45 W	17 2 15 E	0 37 45 W	45 44 46 N
Salisbury	England	3 7 0 W	16 53 0 W	1 47 0 W	51 3 49 N
Salomchi	Macedonia	20 35 48 E	40 35 48 E	22 55 48 W	40 38 10 N
Saltzburg	Germany	10 39 8 E	30 39 8 E	12 59 8 E	47 43 6 N

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Salvages Isles	Atlantic	18 15 0 W	1 45 0 E	15 55 0 W	30 8 30 N
Samara	Ukraine	33 0 0 E	53 0 0 E	35 20 0 E	48 29 35 N
Samarcand	Tartary	68 5 0 E	88 5 0 E	70 25 0 E	39 57 24 N
Sancta Cruz	Teneriffe	18 42 30 W	1 17 30 E	16 22 30 W	28 29 4 N
Sandy Hook	United States	76 26 42 W	56 26 42 W	74 6 42 W	40 25 0 N
Saou Isle	Eastern Ocean	239 50 0 W	219 50 0 W	237 30 0 W	10 35 0 S
Saratoff	Russia	43 40 30 E	63 40 30 E	46 0 30 E	51 31 28 N
Savannah	America	83 16 0 W	63 16 0 W	80 56 0 W	32 0 45 N
Saumar	France	1 23 56 W	18 36 4 E	0 56 4 E	47 15 4 N
Scarborough	England	2 33 0 W	17 27 0 E	0 13 0 W	54 18 0 N
Schmalkalden	Germany	8 6 0 E	28 6 0 E	10 26 0 E	50 44 36 N
Sicily Isles	Brit. Channel	8 50 0 W	11 10 0 E	6 30 0 W	50 0 0 N
Cape Sebastian	Madagascar	44 5 0 E	64 5 0 E	46 25 0 E	12 30 0 S
Selinginsk	Siberia	104 40 30 E	124 40 30 E	106 40 30 E	51 6 6 N
Senegal	Negroland	18 51 30 W	1 8 30 E	16 31 30 W	15 53 0 N
Selivria	Turkey	25 50 48 E	45 50 48 E	28 10 48 E	41 4 35 N
Sennar	Africa	28 45 0 E	48 45 0 E	31 5 0 E	14 48 0 N
Sens	France	0 57 24 E	20 57 24 E	3 17 24 E	48 11 55 N
Seringapatam	Indostan	74 26 40 E	94 26 40 E	76 46 40 E	12 31 45 N
Sevile	Spain	7 45 0 W	12 15 0 E	5 25 0 W	37 23 0 N
Sevastopolis	Crimea	31 15 0 E	51 15 0 E	33 35 0 E	44 41 30 N
Sheerness	England	1 19 5 W	18 40 55 E	1 0 55 E	51 31 30 N
Shooter's Hill	England	2 16 6 W	17 43 54 E	0 3 54 E	51 28 5 N
Shirburn	England	3 18 15 W	16 41 45 E	0 58 15 W	51 39 22 N
Siam	India	98 30 0 E	118 30 0 E	100 50 0 E	14. 18 0 N
Sienna	Italy	8 50 0 E	28 50 0 E	11 10 0 E	43 22 0 N
Sierra-Leone, Cape	Africa	15 29 17 W	4 30 43 E	13 9 17 W	8 29 30 N
Si-nghan-fou	China	106 23 45 E	126 23 45 E	108 43 45 E	34 16 30 N
Siout	Egypt	28 54 1 E	48 54 1 E	31 14 1 E	27 10 0 N
Cape Skagen	Denmark	8 17 45 E	28 17 45 E	10 37 45 E	57 43 44 N
Smolensko	Russia	29 36 36 E	49 36 36 E	31 56 36 E	54 50 54 N
Smyrna	Natolia	24 56 33 E	44 45 25 E	27 6 33 E	38 28 7 N
Socatora, Isle	Indian Ocean	52 0 0 E	72 0 0 E	54 20 0 E	12 35 0 N
Sofala	Africa	31 31 0 E	51 31 0 E	33 51 0 E	20 14 0 S
Soissons	France	0 59 22 E	20 59 22 E	3 19 22 E	49 22 52 N
Sombrero	Antilles	65 47 30 W	45 47 30 W	63 27 30 W	18 35 0 N
Cape South	New Zeeland	164 48 0 E	184 48 0 E	167 8 0 E	47 16 50 S
Southampton	England	3 43 56 W	16 16 4 E	1 23 56 W	50 54 0 N
Spira	Germany	6 6 1 E	26 6 1 E	8 26 1 E	49 20 0 N
Spitzbergen	North Sea	6 52 25 E	26 52 25 E	9 12 25 E	79 47 0 N
Stadt	Germany	7 3 15 E	27 3 15 E	9 23 15 E	53 36 5 N
Stargard	Prussia	12 47 12 E	32 47 12 E	15 7 12 E	63 19 6 N

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Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Stockholm	Sweden	15 43 51 E	35 43 51 E	18 3 51 E	59 20 31 N
Stonehenge	England	4 9 8 E	15 50 52 E	1 49 8 W	51 10 44 N
Stralsund	Pomerania	11 4 12 E	31 4 12 E	13 24 12 E	54 18 30 N
Strasburg	Alsace	5 24 38 E	25 24 38 E	7 44 38 E	48 34 55 N
Strumness	Orkney	5 51 20 W	14 8 40 E	3 31 20 W	58 56 22 N
Stutgard	Germany	6 50 36 E	26 50 36 E	9 10 36 E	48 46 16 N
Suez	Red Sea	30 15 36 E	50 15 36 E	32 35 36 E	29 58 37 N
Sumatra, N. W. extremity	Indian Ocean	93 40 0 E	113 40 0 E	96 0 0 E	5 30 0 N
Sunda Strait	Indian Ocean	103 15 0 E	123 15 0 E	105 35 0 E	5 45 0 S
Surat	Indostan	70 42 35 E	90 42 35 E	73 2 35 E	21 11 0 N
Sydney Cove	New Holland	149 2 0 E	169 2 0 E	151 22 0 E	33 51 3 S
Syene	Africa	30 34 49 E	50 34 49 E	32 54 49 E	24 5 23 N
Syracuse	Sicily	13 7 3 E	33 7 3 E	15 27 3 E	37 3 0 N

T.

Taiti Isle, Port Venus	Pacific Ocean	151	50	30 W	131	50	30 W	149	50	30 W	17	29	17 S
Tangier	Barbary	8	10	0 W	11	50	0 E	5	50	0 W	35	44	36 N
Tanjore	India	76	28	26 E	96	28	26 E	78	48	26 E	10	46	30 N
Tarasson	France	1	46	6 W	18	13	4 E	0	33	54 E	43	48	20 N
Tarragona	Spain	1	0	45 W	18	59	15 E	1	19	15 E	41	8	50 N
Tassa, Isle	Sea of Marmara	22	18	54 E	42	18	54 E	24	38	54 E	40	46	40 N
Tefler	Persia	48	31	18 E	68	31	18 E	50	51	18 E	41	56	18 N
Tellicherry	Indostan	73	5	0 E	93	5	0 E	75	25	0 E	11	50	0 N
Teneriffe Peak	Canaries	19	0	0 W	1	0	0 E	16	40	0 W	28	17	0 N
Tenterden Steeple	England	—	—	—	—	—	—	0	41	11 E	—	—	—
Tercera Isle	Azores	29	32	42 W	9	32	42 W	27	12	42 W	38	39	0 N
Terracina	Italy	10	53	7 E	30	53	7 E	13	13	7 E	41	18	14 N
Thaddeus Noss	Siberia	176	45	0 E	196	45	0 E	179	5	0 E	62	50	0 N
Thebes	Egypt	30	18	6 E	50	18	6 E	32	38	6 E	25	43	27 N
St Thomas' Isle	Atlantic	4	22	30 E	24	22	30 E	6	42	30 E	0	19	0 N
St Thomas' Isle	Virgin Isles	67	17	30 W	47	17	30 W	64	51	30 W	18	21	16 N
Thule	Sandwich land	30	4	0 W	10	4	0 W	27	44	0 W	59	34	0 S
Cape Timor	Malaccas	121	39	0 E	141	39	0 E	123	59	0 E	10	23	0 S
Tinian	Marian Isles	143	35	0 E	163	35	0 E	145	55	0 E	14	58	0 N
Tobago	Antilles	63	0	0 W	43	0	0 W	60	40	0 W	11	7	0 N
Tobolsk	Siberia	65	56	30 E	85	56	30 E	68	16	30 E	58	12	30 N
Toledo	Spain	5	39	58 W	14	20	2 E	3	19	58 W	39	50	0 N
Tomsk	Russia	82	38	30 E	102	38	30 E	84	58	30 E	56	30	0 N
Tongres	Germany	3	7	23 E	23	7	23 E	5	27	23 E	50	47	7 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
El-Tor	Arabia	31 48 12 E	51 48 12 E	34 8 12 E	28 8 6 N
Torneo	Sweden	21 54 0 E	41 54 0 E	24 14 0 E	65 50 50 N
Toulon	France	3 35 25 E	23 35 25 E	5 55 25 E	43 7 16 N
Toulouse	France	0 53 39 W	19 6 43 E	1 26 21 E	43 35 41 N
Tornay	Flanders	1 3 12 E	21 3 12 E	3 23 12 E	50 36 50 N
Tours	France	1 38 27 W	18 21 33 E	0 51 33 E	47 23 46 N
Trafalgar, Cape	Portugal	8 20 15 W	11 39 45 E	6 0 15 W	36 10 15 N
Trebizond	Asia Minor	37 23 30 E	37 23 30 E	39 43 30 E	41 3 48 N
Trevoux	France	2 26 12 E	22 26 12 E	4 46 12 E	45 56 36 N
Treves	Germany	4 18 3 E	24 18 3 E	6 38 3 E	49 46 41 N
Trinquemale	Ceylon	78 52 0 E	98 52 0 E	81 12 0 E	8 32 0 N
Trieste	Istria	11 33 0 E	31 33 0 E	13 53 0 E	45 49 42 N
Trinity Bay	North America	126 14 15 W	106 14 15 W	123 54 15 W	41 3 0 N
Tripoli	Syria	33 18 0 E	53 18 0 E	35 38 0 E	34 28 48 N
Tripoly	Barbary	11 1 7 E	31 1 7 E	13 21 7 E	32 53 40 N
Tritchinopoly	Indostan	76 18 35 E	96 18 35 E	78 38 35 E	10 49 0 N
Troy, ruins	Turkey	24 15 0 E	44 15 0 E	31 55 0 E	39 55 0 N
Troyes	France	1 44 36 E	21 44 36 E	4 4 36 E	48 18 5 N
Tschutski	Asia	175 51 0 W	155 51 0 W	173 31 0 W	64 14 30 N
Tunis	Barbary	7 53 6 E	27 53 6 E	5 33 6 W	36 45 30 N
Turin	Italy	5 20 0 E	25 20 0 E	7 40 0 E	45 4 14 N
Tyrnaw	Hungary	15 14 50 E	35 14 50 E	17 34 50 E	48 23 30 N
Tyre	Syria	53 12 0 E	73 12 0 E	50 52 0 E	33 13 0 N

U. V.

Valdivia	Chili	75 46 30 W	55 46 30 W	73 26 30 W	39 51 0 S
Valencia	Spain	2 39 0 W	17 21 0 E	0 19 0 W	39 27 42 N
Valenciennes	Flanders	1 11 40 E	21 11 40 E	3 31 40 E	50 21 4 N
Valparaiso	Chili	73 58 30 W	53 58 30 W	71 38 30 W	33 0 30 S
Vellore	Indostan	76 55 0 E	96 55 0 E	79 15 0 E	12 52 0 N
Venice	Italy	9 43 15 E	29 43 15 E	12 3 15 E	45 27 2 N
Vera Crux	Mexico	98 21 45 W	78 21 45 W	96 1 45 W	19 11 52 N
Cape Verd	Africa	19 53 15 W	0 6 45 E	17 33 15 W	14 47 15 N
Verdun	France	3 2 41 E	23 2 41 E	5 22 41 E	49 9 24 N
Verona	Italy	8 41 30 E	28 41 30 E	11 1 30 E	45 26 26 N
Versailles	France	0 12 53 W	19 47 7 E	2 7 7 E	48 48 22 N
Vienna	Austria	14 2 30 E	34 2 30 E	16 22 30 E	48 12 36 N
Vienne	France	2 32 26 E	22 32 26 E	4 52 26 E	45 31 55 N
Vigo	Spain	10 53 45 W	9 6 15 E	8 33 45 W	42 13 20 N

Longitudes

Longitudes and Latitudes of Places.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Cape Vincent	Portugal	11 29 54 W	8 30 6 E	9 9 54 W	37 2 54 N
Vincent Isle	Verd Islands	27 12 0 W	7 12 0 W	24 52 0 W	16 50 0 N
Cape Virgin	Str. of Magellan	70 14 20 W	50 14 20 W	67 54 20 W	52 23 0 S
Visagapatam	Indostan	81 4 0 E	101 4 0 E	83 24 0 E	17 42 0 N
Ulietea Isle	Pacific Ocean	153 57 0 W	133 57 0 W	151 37 0 W	16 45 35 S
Ulm	Swabia	7 38 48 E	27 38 48 E	9 58 48 E	48 23 45 N
Umba	Lapland	31 55 0 E	51 55 0 E	34 15 0 E	66 39 47 N
Unst Isle	Shetland	3 6 0 W	16 54 0 E	0 46 0 W	60 44 0 N
Upsal	Sweden	15 18 30 E	35 18 30 E	17 38 30 E	59 51 50 N
Uraniburg	Denmark	10 32 45 E	30 32 45 E	12 52 45 E	55 54 20 N
Urbino	Italy	10 16 50 E	30 16 50 E	12 36 50 E	43 43 36 N
Ushant Isle	France	7 23 33 W	12 36 27 E	5 3 33 W	48 28 30 N
Utrecht	Holland	2 46 48 E	22 46 48 E	5 6 48 E	52 5 0 N
Vulcan Isle	Solomon's Isles	163 28 6 E	183 28 6 E	165 48 6 E	10 25 12 S

W.

Wallis Isle	Pacific Ocean	179 5 0 W	159 5 0 W	176 45 0 W	13 17 0 S
Wardhus	Lapland	28 46 45 E	48 46 45 E	31 6 45 E	70 22 36 N
Wakefield	England	3 55 0 W	16 5 0 E	1 35 0 W	53 41 0 N
Warsaw	Poland	18 39 54 E	38 39 54 E	20 59 54 E	52 14 30 N
Weimar	Germany	9 0 45 E	29 0 45 E	11 20 45 E	50 59 12 N
Wilna	Poland	22 54 50 E	42 54 50 E	25 14 50 E	54 41 2 N
Windsor	England	2 55 28 W	17 4 32 E	0 35 28 W	51 29 0 N
Wismar	Mecklenburg	9 19 24 E	29 19 24 E	11 39 24 E	53 52 54 N
Wittemburg	Germany	10 22 40 E	30 22 40 E	12 42 40 E	51 53 10 N
Wolfenbuttel	Germany	8 11 34 E	28 11 34 E	10 31 34 E	52 9 0 N
Wologda	Russia	37 50 0 E	57 50 0 E	40 10 0 E	59 13 33 N
Worcester	England	4 19 15 W	15 40 45 E	1 59 15 W	52 9 30 N
Worms	Germany	6 0 57 E	26 0 57 E	8 20 57 E	49 37 49 N
Woronesch	Russia	37 0 45 E	56 0 45 E	39 20 45 E	51 40 30 N
Wurtzburg	Germany	8 1 45 E	28 1 45 E	10 21 45 E	49 46 6 N

Y.

Yarmouth	England	0 34 18 W	19 25 42 E	1 45 42 E	52 43 0 N
York	England	3 26 2 W	16 37 58 E	1 6 2 W	53 57 45 N
York, New	New England	76 29 0 W	56 29 0 W	74 9 0 W	40 43 0 N
York, (Duke of) Isle	Pacific Ocean	174 42 0 W	154 42 0 W	172 22 0 W	8 29 0 S
Ypres	Flanders	0 32 50 E	20 32 50 E	2 52 50 E	50 51 5 N

Longitudes

Longitudes and Latitudes of Places.

Z.

Towns, &c.	Countries.	Longitudes. From Paris.	Longitudes. From Ferro.	Longitudes. From Greenwich.	Latitudes.
		Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.	Deg. Min. Sec.
Zarizin	Russia	42 7 30 E	62 7 30 E	44 27 30 E	48 42 20 N
New Zeeland	at Cape East	176 38 0 E	196 38 0 E	178 58 0 E	37 44 30 S
	at Cape South	165 0 0 E	185 0 0 E	167 20 9 E	47 17 0 S
	at Cape North	170 15 0 E	190 15 0 E	172 35 0 E	34 22 0 S
Zurich	Switzerland	6 12 35 E	26 12 35 E	8 32 35 E	47 22 0 N

GEOGRAPHY.

EUROPE.

GEOGRAPHERS divide the earth into two hemispheres, called the Old and New Continents; the former of which comprehends Europe, Asia, and Africa, and the latter North and South America. The Old Continent, according to Buffon's estimate, contains 4,940,780 French leagues; the New Continent 2,140,212; and both 7,080,992; which is not half the surface of the globe.

Europe lies chiefly in the temperate zone, north of Africa, and north-west of Asia, between 35° 25′ and 71° 23′ N. latitude, and between 9° 40′ W. and 61° 5′ E. longitude from Greenwich; being 2400 English miles from north to south, and 2100 from the western extremity of Spain to Constantinople; but the distance between Ushant near Brest, and that part of Russia where the Don approaches the Wolga, exceeds 2500 miles. The south boundary is the Mediterranean; on the west and north are the Atlantic and Northern Oceans; and the eastern frontier is formed by the river Don and an imaginary line stretching northward to Nova Zembla.

The principal chains of mountains are---The Carpathian or Krapack mountains, between Poland and Hungary; the Alps, between France, Switzerland, and Italy; the Apennines in Italy; the Pyrenees between France and Spain; and the extensive ridge that separates Norway from Sweden.

The most noted capes are---North Cape, the extreme point of Lapland; Cape Finisterre, on the N. W. coast of Spain; Cape St Vincent, the S. W. extremity of Portugal; and Cape Matapan, the south point of Morea.

The most distinguished islands are—Great Britain and Ireland, the Orkney Isles, the Hebrides, Zealand and Funen in the Baltic, Iceland in the North Sea. In the Mediterranean are—Ivica, Majorca, Minorca, Sardinia, Corsica, Sicily, Malta, Candia, and the islands of the Archipelago.

The gulfs and bays are numerous; among which are the following, viz. The White Sea, between Russia, Sweden, and Germany; the Baltic, Bothnian and Finland Gulfs, bounded by Prussia, Denmark, Sweden, and Russia; the Murray Frith, and the Frith of Forth, on the east coast of Scotland; the Bay of Biscay, a large inlet of the Atlantic, on the east bounded by France, and on the south by Spain. The Mediterranean, that has a communication with the Atlantic Ocean, forms many gulfs, viz. That of Lyons, south of France; the Gulf of Genoa, between Corsica and the Genoese republic; the Gulf of Venice, between Italy and Greece; the Gulf of Lepanto, north of Morea; the Archipelago between Greece and Asia Minor; the Sea of Marmara, between Europe and Asia; the Sea of Asoph on the north coast of the Euxine.

The most considerable straits are---That of Waygatz at the N. E. extremity of Europe; the Sound of Elsinore between the island of Zealand and Sweden; the Little Belt, between Funen and Jutland; the Cattegat, or entrance into the Baltic; the Strait of Dover, or English Channel, between England and France; St George's Channel, between England

land and Ireland; Pentland Frith between Scotland and the Orkney Isles; the Strait of Gibraltar, between Spain and Africa; the Strait of Messina, between Italy and Sicily; the Dardanelles Strait, or south entrance into the Sea of Marmara; the Strait of Constantinople that forms a communication between the Sea of Marmara and the Euxine; the Strait of Caffa, between the Euxine and the Sea of Asoph.

The most remarkable lakes are—Those of Onega, Ladoga, and Peipus in Russia; those of Geneva and Constance, S. W. and N. of Switzerland; Lago, Maggiore, and others, in the northern parts of Italy.

The largest rivers are—The Volga, Don, and Dwina in Russia; the Dnieper, on the east border of Poland; the Danube, between Hungary and European Turkey; the Rhine and Elbe in Germany; the Rhone in France; the Tayo in Spain, &c.

An agreeable diversity of surface, a happy temperature of climate, and an advantageous situation for commerce, are the grand and distinguishing features of this division of the globe.

The population of Europe is generally estimated at 130,000,000, which is inferior to the population of some other parts of the earth. China alone, if we may rely on respectable authority, contains a much greater number of inhabitants. Some writers have affirmed that Europe was anciently more populous than at present. What credit is due to this opinion will appear, if we consider the number and greatness of modern cities, towns, and villages; the abolition of feudal wars; the adoption of a mode of combat less destructive than formerly; the gradual extirpation of superstition, fanaticism, barbarity, and slavery; and the essential improvements made in agriculture by eradicating forests, draining marshes, cultivating wastes, and opening canals of communication in the interior countries. Population, for some time past, has been increasing in most European states, notwithstanding the ravages of war, and emigrations to foreign parts.

The principal European states are—1. The British empire, containing England, Scotland, and Ireland. The states of the King of Denmark,

comprehending Denmark with the adjacent islands, Norway and Iceland. 3. Sweden. 4. Russia, formerly called Muscovy. 5. Holland. 6. France, including the Netherlands, Italian states, and other acquisitions. 7. Switzerland. 8. Germany and Austria. 9. Prussia. 10. Bohemia and Hungary. 11. Poland, now dismembered. 12. Spain. 13. Portugal. 14. Sicily, belonging to the King of Naples. 15. Malta, an island under the protection of Great Britain. 16. Turkey in Europe.

The languages spoken in Europe are a mixture of ancient tongues.

The low German and Scandinavian derive their origin from the Swedish and Danish, which have an affinity to the Greek and Latin.

The Swedish, Norwegian, Danish, and Islandic, are dialects of the Teutonic, which differs little from the Celtic. Hence all those nations were called Celts by the ancient Greeks.

The Sclavonic, so called from the Sclavi a Scythian nation, is the source to which we may trace the languages now used in Bohemia, Hungary, Transylvania, Poland, Lithuania, Prussia, Russia, Dalmatia, Croatia, Vandelicia, Bulgaria, Lusatia, Moravia, Servia, Stiria, Carinthia, Nova Zembla.

The Italian and Velasquez are a mixture of Latin and other tongues.

The language in several districts of the Grison country is composed of Italian and Latin.

The Celtic, or ancient Gaulish, was the language of nations descended from the Scythians, who migrated from the countries adjacent to the Caspian Sea, and, under different appellations, penetrated into Asia Minor, Greece, Germany, France, Italy, Spain, Portugal, &c. Dialects of that language are still used in Lower Bretagne, Wales, Biscay, and Ireland.

The jargon blended with the Latin and some other tongues, gave origin to the French language.

The Cantabrian anciently used in Spain, is still spoken in the provinces of Guipuscoa and Navarre, and in the territores of Labour and Souli

in

in France. This language, mixed and blended with the Phœnician, Carthaginian, Latin, Gothic, and Arabic, produced the Spanish, or Castilian, tongue.

Though the English was derived from the Teutonic, it has been greatly improved and enriched by other languages.

The Irish is spoken in Ireland, and a dialect of it is used in the northern districts of Scotland.

The modern Greek, spoken in the Archipelago islands, and other Turkish provinces, is the ancient Greek corrupted.

The Tartar and Turkish languages are nearly the same.

The great variety of dialects of the same language, has been chiefly owing to one or more of the following causes :

1. Difference of climate will insensibly produce a variation of language, because it will occasion a difference in the pronounciation. Every country has a pronounciation peculiar to itself, and according to the climate will abound in guttural sounds, in pectorals, labials, or dentals; so that if a number of men, originally of the same nation and language, were dispersed into different regions, the several climates would affect the pronounciation of their descendants so as to make their tongues, in process of time, to differ materially from one another.

2. Intercourse and commerce with foreign nations often effects a change of language. Two nations, by trading with one another, borrow words and phrases from each other, and intermix them with their own, so that either language, in process of time, will be altered. In like manner, a colony of foreigners will, by degrees, communicate many words and expressions to the people among whom they are settled. The Greeks, for instance, planted colonies along the coasts of the Mediterranean; accordingly, many remains of their language are still found in those maritime tracts. The same thing may be observed of the Carthaginian and Roman colonies, who, by the introduction of terms in use among themselves, effected a proportional alteration in the languages of those

those countries to which they migrated. A considerable number of French accompanied Queen Mary into Scotland; in consequence of which many French words and idioms were adopted and are still used by the natives of this country. The same effect is sometimes produced by conquest. The language of the Italians, in the fifth century, was considerably altered by the Goths, and in the sixth century by the Longobards; and that of the English by the Saxons and Normans.

3. Another cause of the mutability of language is the unsettled temper and disposition of mankind. As the opinions and manners of men are continually changing, their idioms and words cannot remain long fixed and stable. Uniformity among a large collection of people cannot be long permanent in any one thing; and, of all other things, diction and expression, perhaps, are most fluctuating, as they depend, in a great measure, on the fancies, caprices, necessities, inventions, amusements, and pleasures of men.

4. A change in the orthography of a language will, in process of time, occasion a different dialect, or, at least, will remove it farther from the original. Thus, the Hibernians change the Welsh B and P unto C and K. The Welsh also change the Latin M into F. Instead of Terminus, they say, Terfen; Firmus they convert into Ferf; Amnis into Afon, &c.

Many maps of Europe have been constructed; but that of Arrowsmith, in four sheets, is distinguished by its accuracy and elegance.

HISPANIA.

Ancient Spain, including Lusitania, or Portugal, lay between 36° and 43° 46′ 37″ N. latitude, and between 8° and 21° E. longitude from Ferro. It was bounded on the north by the Bay of Biscay and the Pyrenean Mountains; on the east and south by the Mediterranean Sea; and on the west by the Atlantic Ocean. The greatest breadth of this peninsula,

sula, from north to south, is 550 miles, and its length 660 on the parallel of 42° N. latitude.

Spain, or a considerable part of it, was anciently called Iberia, and Celtiberia, from the Celtæ and Iberi, two tribes of barbarians settled on the banks of the Ebro; Hesperia, from its situation, being the western province of the Roman empire, of Europe, and of the continent; and Hispania a term of doubtful etymology.

The most noted rivers in that country are as follows.

1. *Minius*, the Minho or Migno, whose sources are in the northern part of *Gallaecia*, Gallicia, on the confines of Asturias, and whose direction is south-west to the Atlantic, into which it falls below Tuy, after a course of 200 miles.

2. *Lethe*, the Lima, likewise originates in Gallicia, and loses itself in the sea below Viana. The Turduli and Celtæ, after the death of their leader, established themselves on the banks of this river, forgetful of their native country.

3. *Durius*, the Douro, flows from the Mountains of Idubeda, through the middle of Leon, and the northern part of Portugal, to the sea near Porto, having received many streams in its rapid progress. The shoals and rocks in the mouth of this river render the navigation of it difficult and dangerous. Its course may be computed about 400 miles.

4. *Tagus*, the Tajo, the largest river on the western coast, and anciently celebrated for its golden sand, descends from the Mountains of Albaraçin in New Castile, on the border of Aragon. The direction of its course is nearly parallel to that of the Douro. In its passage through Portugal, it is augmented by the Zezere which proceeds from Mount Estrella, and by other rivers. Near its mouth are several small islands, and at Lisbon there is a commodious harbour. The course of this river is about 500 miles.

5. *Anas*, the Guadiana, may be traced to some lakes, or marshes, north-west of Alcaraz in New Castile. Thence westward it flows to the confines

confines of Portugal, near Badajoz; and, suddenly changing its direction, proceeds S. S. W. to the ocean.

6. *Boetis*, or Tartessus, the Guadalquivir, originates in Saltus Tugiensis, at the foot of *Mons Orospeda*, now Mount Segura. Parallel to the Guadiana, it moves sluggishly along, and falls into the sea near the island of Cadiz, after having run 340 miles.

7. *Singulis*, the Xenil, from its source near the ancient *Elliberis*, Elvira, in Granada, flows westward to the Boetis, which it augments between Corduba and Seville.

8. *Terebus*, or Tader, the Segura, rises in a cognominal mountain not far from the source of the Boetis, and traverses the province of Murcia, in its progress to the Mediterranean.

9. The springs of the *Sucro*, Xucar, are in New Castile above Cuenza, whence it proceeds eastward to the Bay of Valencia.

10. *Iberus*, the Ebro, from the Mountains of Santillano, in Old Castile, runs south-east with rapidity to the Mediterranean; in its progress augmented by many streams and rivulets, the most considerable of which is *Sicoris*, the Segre, a small river that issues from the Pyrenees, and loses itself in the Ebro below Lerida, after a course of 400 miles.

11. The origin of the *Rubricatus*, Lobregat, is in the Pyrenean Mountains; its course is from north to south through Catalonia; and its termination is in the Mediterranean two leagues westward from Barcelona.

12. *Sambroca*, the Ter, another small river in Catalonia, passes through the north-east extremity of that province.

Spain is a very mountainous country. It is separated from France by Montes *Pyrenaei*, the Pyrenees, which extend eighty-five leagues from the Mediterranean to the Bay of Biscay; and whose branches in various directions traverse a considerable part of the kingdom. Several groups of this vast chain are distinguished by appellations derived from places in their vicinity. The Pyrenees are so steep and difficult of access,

cess, that five narrow passes only are frequented from France to Spain. The first is at St Sebastian in Biscay; the second at Maya and Pampeluna in Navarre; the third at Taraffa; the fourth from the county of Comminge into Aragon; and the last from Languedoc to Catalonia. A few more have been attempted in cases of extreme necessity.

From the environs of Roncevaux, a chain called the Cantabrian Mountains, but distinguished by different names, proceeds westward, under 43° N. latitude, almost covering the northern part of the kingdom, and terminating at Cape Finisterre and Cape Ortegal. Near the sources of the Ebro, it is most elevated. In that district, there is a lofty mountain, called Arandillo, on whose summit is a plain clothed with verdure. To the westward of Reynosa, is a mine of emery, and a hill on which appears to have been a Roman encampment. The strait of Pancorva, below the source of the Ebro, is about 50 paces wide, a mile in length, and of considerable height. The mountains eastward, viz. from Epinoza to Mondragon and the river Bidissoa, are of different heights, and separated from one another by narrow vallies and plains. In those parts iron mines abound, the hills are shaded with trees, and the scenery is various and picturesque. That chain forms, with the ridges which extend southward under 15° and 16° longitude, a spacious bason, or plain, comprehending the greater part of Navarre. A ridge of hills, distinguished by the appellations of Sierra d'Occa, Idubeda, &c. with little interruption, but with various flexions, reaches from the source of the Ebro to the mouth of that river.

From a plateau, or group of mountains, called Mount Cajo, in $41\frac{1}{2}^{\circ}$ latitude, an elevated ridge proceeds S. S. E. to Molina d'Aragon, and thence S. to Cape Gates, dividing Aragon and Murcia from New Castile and Andalousia. That ridge covers the sources of many rivers, and abounds in natural curiosities. Several branches extend westward to the sea.

One ridge of hills divides the plains of the Douro from those watered by the Tajo; forming the common boundary of Old and New Castile, and that of Leon and Estremadura.

Mons Herminius, M. Arminno, extends from east to west, between the rivers Tajo and Guadiana; and a branch from the south west of Alcantara passes northward through Portugal. On the summit of this ridge, four miles from the sea, there are two deep lakes, the motion of whose waters appears to be excited by that of the ocean.

Marianus Mons, Sierra Morena, lies between the rivers Guadiana and Guadalquiver, in a direction nearly parallel to these rivers.

Sierra Susanna and Sierra Carcola, occupy the northern parts of Granada, and the adjacent extremity of Andalousia.

Along the sea-coast are the following capes, or promontories. *Aphrodisium*, or veneris promontorium, or prom. *Pyrenoeum*, now Cape Creus, at the north-east extremity of Spain, on which a temple of Venus anciently stood. *Dranium, prom.* Cape Martin, opposite to the Island of Ivica. *Saturni*, or Scombraria *prom.* Cape di Palos, near Carthagena, and a cognominal island also called insula Herculis. *Charidemum* prom. Cape di Gata, the extreme point of the coast of Granada. *Calpe*, prom. Gibraltar, whose situation is well known. *Cuneum*, prom. Cape di S. Maria, which runs out into Sinus Gaditanus, near Cadiz. *Sacrum prom.* Cape S. Vincent, the south-west extremity of Portugal. *Barbarium*, prom. Cape Espichel, south of Lisbon and the mouth of the Tajo. *Lunae* prom. or Mons Roca, near Lisbon. *Nerium* prom. also called Artabrum and Celticum. Cape Finisterre, on the western coast of Gallicia. *Trileucum* prom. Cape Ortegal, the northern extremity of Gallicia, opposite to which are three rocks called Trileuci, in Oceanus *Cantabricus*, or Bay of Biscay. *Scythicum* prom: Cape Penas, on the coast of Asturias.

The principal Bays distinguished by ancient or modern appellations, are *Sucronensis Sinus*, the bay of Valencia. *Illicitanus Sinus*, the bay

of

of Alicant. *Virgitanus Sinus*, the Gulf of Carthagena. *Gaditanus Sinus*, the Bay of Gibraltar, near the strait called Fretum Herculaeum and Gaditanum. *Magnus Portus*, the Bay of Corunna, commonly called the Groyne; and *Cantabricus Sinus*, the Bay of Biscay, on the northern coast.

Hispania, originally occupied by small independent tribes, was long exposed to the insults and depredations of every invader. During that early period, the Phœnicians planted several colonies, along the southern coasts, in Turditania, a district of Bætica. Some Grecian adventurers from Marseilles crossed *Sinus Lugdunensis*, or the Gulf of Lyons, and settled at Emporiæ, Rhoda, &c. near the north-east extremity of the country. The Carthaginians, in process of time, established colonies on the south coast, to the eastward of the Strait of Gibraltar. At the conclusion of the Second Punic War, the Romans, having made themselves masters of Spain, divided it into two provinces, called Citerior and Ulterior, which were governed sometimes by prætors, and sometimes by proconsuls. In the reign of Augustus, Hispania Ulterior was subdivided into Bætica and Lusitania. Hispania Citerior, called Tarraconensis, from the principal city of the province, comprehended three-fourths nearly of modern Spain, and was separated from Bætica and Lusitania by an imaginary line supposed to extend from the Gulf of Carthagena to the conflux of the Agueda and Douro, on the confines of Portugal. Bætica, so called from the river Bætis, was a small province along the coast, on either side of Fretum Herculeum, from the Gulf of Carthagena to the mouth of the Anas; and, in general, included the provinces now called Granada and Andalusia.

LUSITANIA.

This province at first extended from the River Tagus along the coast to the sea of Cantabria; but a subsequent division, made by Augustus,

reduced its limits to the mouths of the Anas and the Durius. It comprehended almost the whole of modern Portugal, together with a small part of Leon and Estremadura.

When the Romans penetrated into Lusitania, they found it possessed by three considerable tribes. The Lusitani occupied the territory along the sea coast, between the rivers Durius and Tagus. The Celtici inhabited the southern districts ; and the Vettones, in the interior parts, extended their settlements from the Durius to the Anas.

1. The principal cities and towns of the Lusitani were the following : *Olisippo*, Lisbon, an ancient city and municipium, surnamed Felicitas Julia, a Roman town, but governed by its own laws, on the north side of the frith of the Tagus, about ten miles above its mouth. On the sea coast stood *Prom. Magnum*, or *Olisipponense*, now Roca di Sintra, the western extremity of the European continent. Opposite to that promontory, and south of Tajo Mouth, was *Barbarium Prom.* now Cape Espichel. *Scalabis*, surnamed Præsidium Julium, is now called Santaren, or Santa-Irene, on the right bank of the Tagus, 15 leagues above Olisippo. It was one of three conventus into which Lusitania was divided, the other two being Emeritensis and Pacensis. *Tubucci*, Tancos, on the Tagus, 32 miles above Scalabis, at the mouth of a small river whose modern name is Monsul. *Conimbriga*, from whose ruins Coimbra arose, was situate 39 miles above the mouth of the Monda, now Mondego, a small stream that flows westward, between the Tagus and the Durius, to the ocean. *Talabriga*, Terocas, on the nothern bank of the rivulet Vacua, or Vouga, not far from the sea coast. *Langobriga*, Legares, anciently a town of some note, south-east from the mouth of the Mondego. *Lama*, Lamego, on the left bank of the Durius, at a considerable distance from the sea.

2. The common boundary between the Lusitani and the Vettones was very indeterminate, and varied according to the success of the contending tribes.

tribes. Ancient history has recorded the names of the following towns, which belonged chiefly to Vettonia, a province of considerable extent:

Lancia Oppidana, now Aguarda, near the source of the river Monda, or Mondego. *Lancia Transcudana*, cividad Rodrigo, on a small stream now called the Agueda. Both these towns contributed to the building of Trajan's bridge on the Tagus. *Ingædita*, Idanha, north of Alcantara and the Tagus, and north-west of Salvatierra. *Salmantica*, Salamanca, on the Tormes, an inconsiderable stream which originates in Sierra de Pico, near the southern extremity of Old Castile, traverses Leon, and falls into the Douro, five leagues below Miranda. *Mirobriga* is supposed to have stood between Rodrigo and Salamanca; but no vestige of it remains.

Cauriam, Coria, on the right hand of the Tagus, north-east of Alcantara, between Salvatierra and Placenzia. *Norba Cæsarea*, perhaps Alcantara, on the Tagus, near Trajan's bridge. *Castra Cæcilia*, Caceres, on a rivulet, south-east of Alcantara.

Emerita Augusta, Merida, situate on the Anas, was a Roman colony of pensioners or invalids, founded by Augustus, and was sometime the capital of Lusitania. *Metallinum*, Medellin, was originally built on the right bank of the Anas, above Merida; but, in process of time, the river shifting its channel, this town was found to the left in the province of Bætica.

3. The district along the sea-coast, between the Tagus and the Anas, was occupied by the Celtici, and contained several places of note, viz. *Pax Julia*, or Pax Augusta, by the Moors called Pacca, now Beia, to the right of the Anas, about 60 miles from the sea-coast, and the same distance nearly from the mouth of that river. *Mirtilis*, Mertola, between Beia and the mouth of the Anas, or Guadiana. *Balsa*, Tavira, on the sea-coast, between the Anas and *Cuneum prom.* Cape de S. Maria. *Ossonoba*, a considerable maritime town, the ruins of which are extant at Faro, opposite to Cape S. Maria. A vestige of *Lacobriga* may be traced

traced near Lagos, a small town of Algarvez, not far from Sacrum prom. Cape St Vincent. This corner of Lusitania was called Ager Cuneus, from its figure, and, in the Arabic, Algarva. The latter of these appellations it still retains. *Salacia*, a municipium, Alcaçar de Sal, N. W. of Beia, on the river Calipos, now Cadaou. *Cetobriga*, Setuval, on the western coast, at the mouth of the Calipos. *Ebora*, surnamed Liberalitas Julia, now Evora, about 35 miles to the northwest of Pax Julia. *Aritium Prætorium*, Benevento, to the left of the Tagus, north-east of Lisbon. *Moron*, Al-Merim, south of Scalabis, or Santaren, near the Tagus. *Medobriga*, or Meidobriga, was surnamed Plumbaria, from the lead mines in its neighbourhood, south-west of Alcantara. The town itself is extinct, but its ruins, called Armenha, may be traced at the foot of Mons *Herminius*, now Mount Arminno, or Sierra d'Estrella.

BÆTICA.

This province, which received its name from the river Bætis, was bounded on the north by Anas, or Guadiana, and on the south by the Mediterranean Sea. It was divided by the Romans into four Conventus Juridici, viz. Gaditanus, Cordubensis, Astigitanus, and Hispalensis; containing 175 towns, of which eight were municipia, and nine colonies *. Renowned for its fertility, beauty, and population, it comprehended

* Roman colonies derived their origin from Rome. At the time of their establishment, a form of government and a code of laws were prescribed to them; but they were not admitted to all the privileges of Roman citizens.

Municipia were corporations, or enfranchised places, where the natives were allowed the use of their laws and constitutions, and, at the same time, were honoured with the privileges and liberties of Rome; but their privileges were gradually abridged.

Prefecturae

hended the modern provinces of Andalusia and Granada, a small district near the north-east extremity excepted.

The tract along the sea-coast on either side of the Bætis, was inhabited by the Turdetani. The Turduli occupied the interior part of the province, and the Bastitani were settled in the canton near the sources of the river, and the extensive ridge of mountains called Mons Orospeda. The Bastuli possessed the sea-coast eastward from the Strait of Gibraltar. An inland territory called Bæturia, between the Anas and the Bætis, was divided among several obscure tribes.

The most noted settlements of the Turdetani were as follows:

Gades or Gadir, also called Augusta Julia Gaditana, now Cadiz, in a cognominal island, at the mouth of the Bætis, 125 miles from the entrance of the strait. According to Polybius, this island is 12 miles in length and 3 in breadth; its least distance from the continent being 700 Roman feet, and its greatest distance 7500 paces. Pliny mentions a contiguous island, which he calls Erythia and Aphrodisia, and which some modern writers suppose to be Isla de Leon, while others conjecture that it has been swallowed up by the sea. Perhaps it now forms a part of the island of Cadiz. Between this island and the strait lies *promontorium Junonis*, Cape Trafalgar.

Asinda, the Asido of Pliny, now Medina Sidonia, an inland town to the eastward of Gades. *Xera*, by Pliny called Asta Regia, now Xera de

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Prefecturæ were certain towns, whose inhabitants had the name of Roman citizens, but were neither permitted to enjoy their own laws nor magistrates.

Free Towns, were governed by their own laws, and exempted from tribute, but were subjected to the orders of the Roman Senate.

A Conventus was formed by the union of several towns, in whose capital a court was held for the administration of Justice.

Tributarii were those who paid certain taxes to the state.

de la Frontera, near a branch of the Bætis that has been choaked up with mud, about 16 miles north of the port of Cadiz. The ruins of this considerable town may be still traced. *Nebrissa*, surnamed *Veneria*, Lebrixa, anciently situate between the arms of the Bætis, now about eight miles to the left of this river, one of the branches being dried up. Strabo observes, that the borders of the Bætis, from its mouth as high as Corduba, were adorned with houses and plantations, and that many pleasant islets were scattered in the channel of the river. *Hispalis*, Sevile, a trading town on the Bætis, above the place where it was divided into two branches, which formed the island of Tartessus. This town was founded by the Phœnicians, surnamed Julia by the Romans, and long the residence of Gothic kings. *Urso*, Ossuna, south-east of Sevile, in the neighbourhood of three small lakes. By Appian this place is called Orsona, and by Hirtius Ursaon. *Astapa*, Estepa la Vieja, east of Urso, was famous on account of the brave defence made by its inhabitants against the Romans under Marius, A. U. C. 546.—The precise situation of Ategua, near the Salsusa, now the Salada, and W. S. W. of Anticara, is not known. This place was besieged and taken by Cæsar. *Carmona*, a strong town near Sevile, retains its ancient appellation. *Ilipa*, surnamed Ilia, on the right hand of the Bætis, near the situation of the modern Alcala, or Alcolea. Harduin places this town higher on the river at Pennaflor. There was a silver mine in its neighbourhood.

Italica, the birth-place of Silius Italicus, Trajan, Adrian, &c. now Sevilla Vieja, four miles from Sevile, on the opposite bank of the river Bætis, which afterwards changed its course. This town was built by Scipio Africanus, after the conclusion of the Spanish war, for the reception of wounded soldiers. *Tucci*, to the westward of Italica, at some distance from the Bætis; but the precise situation of this place cannot be ascertained. *Onoba*, surnamed Aestuaria, near the sea-coast, between the Anas and the Bætis, where Guelva, or Moguer, or Gibraleon now stands.

stands. *Ilipula* Niebla, on the rivulet now called Tinio, above Onoba, in a plain where the Lusitani were defeated by Scipio, A. U. C. 559.

In Bæturia were several places of some importance, viz. *Serpa*, to the left of the Anas, westward from Beia, and still known by its ancient name. *Arucci Novum*, Moura, above Serpa, near the influx of the rivulet now called Ardila into the Anas. *Arucci Vetus*, Arroche, about seven leagues south-east of Moura, near Mons *Arucitanus*, now La Sierra de Arroche. *Contributa* was situate to the south of Merida, and north-west of Mons *Marianus*, Sierra Morena; but no vestige of it remains. *Regina*, or Regiana, Llerena, a colony of Roman citizens, on the road from Sevile to Merida. *Arsa*, on the left hand of the Anas, and south-east of Merida; reduced by Cæpio during the Roman war with Viriatus. *Sisapo*, Almaden, between Sevile and Merida, famous for its mines of vermilion and cinnabar.

The most considerable towns of the Turduli were the following, viz.

Eliberis, or Iliberis, at no great distance from the source of the river Singulis now Xenil. A mountain in that neighbourhood retains the appellation of Sierra Elbira. *Singili*, Puente de Gonzalo, on the bank of the Singulis, about 50 miles above its conflux with the Baetis. *Astigis*, Ecija, surnamed Augusta firma, near the junction of the Singulis and Baetis, a Roman colony, and conventus juridicus. *Ulia*, Monte major, or Montilla, to the right of the Singulis, and south east of Corduba and Ecija. *Obulco*, surnamed Pontificense, between Hispalis and Corduba; but its precise situation is unknown. *Corduba*, old Cordova, a Roman colony, the birth place of the Senecas, of Lucan, and of Martial, afterwards the residence of the Moorish kings, and a splendid city, bathed by the river Baetis. *Epora*, perhaps the modern Montoro, on the Baetis, above Corduba. *Illiturgi*, the ruins of which, it is said, are extant near Andujar el Veio, on the Baetis, or Gualdalquivir. *Castulo*, Cazlona, a colony of the Phoenicians, and famous in the Punic war, near a rivulet

that falls into the Baetis, on a mountain with two summits, north east of Corduba. *Tugia*, Toia, near saltus Tugiensis, or source of the Baetis. *Basti*, Baza, the capital of the Bastitani, at the foot of mons Orospeda, on the border of a river now called Guadalentin. *Acci*, Guadix, or Guadix el Viejo, a city of the Accitani, near the centre of Granada, and the source of the Guadalentin. It was a Roman colony, called Colonia Accitana.

The maritime territory was occupied chiefly by the Bastuli, surnamed Pœni.

Bælo, surnamed Claudia, now Belonia, was a maritime town without the strait, whence there is a short passage to Tingis in Africa. *Tingentera*, Algezira, in the itinerary of Antoninus, called Portus Albus, and Julia Traducta, the birth place of Pomponius Mela, an ancient geographer; on the bay westward of *Calpe*, one of the Pillars of Hercules, famous in history, with a small cognominal town, now called Gibraltar. *Carteia*, and more anciently Heraclea, a small town in the vicinity of Calpe, where Cneius, the son of Pompey the Great, took refuge after the battle of Munda. The ruins of this place are visible on a rising ground, near the mouth of a rivulet which falls into the north-west corner of the bay. Pliny erroneously supposes it to be the same with Tartessus, the capital of a cognominal island at the mouth of the Bætis. *Barbariana*, or Barbesula, at the mouth of a cognominal river, within the straits. *Malaca*, surnamed Fœderatorum, now Malaga, a Carthaginian colony, and a sea-port town, north-east of Gibraltar. *Munda*, Monda, an inland town north-west of Malaga, where Cæsar defeated the sons of Pompey, A. U. C. 708. *Anticara*, Antiquera, an inland town to the northward of Malaga, on a Roman highway from Corduba to Gades. *Menoba*, Almuneçar, east of Malaga, at the mouth of a cognominal river. Hardouin refers the situation of Menoba to the modern Torres, and Dupinet refers it to Vezmioliana. *Selambina*, Salobrina, in the vicinity of Menoba,

noba, near the sea-coast. *Abdera*, Adra, a Carthaginian colony, at the mouth of a small river. Mariana supposes it to be Almeria, and others Vera. *Murgis*, Almeria, a maritime town at the bottom of a deep bay, near promontor. Charidemum, or Cape di Gata; but according to Mariana, this place is now called Muxacar, north-east of Almeria. *Urci*, a sea-port, and the frontier town of Bætica, near the modern Muxacar, or eastward near Vera, at the mouth of the river Guadalmaçar.

HISPANIA CITERIOR, SIVE TARRACONENSIS.

HISPANIA Citerior was bounded on the south and west by Bætica and Lusitania, on the north by Oceanus Cantabricus or Bay of Biscay, and the Pyrenees, and on the east by the Mediterranean Sea. It comprehended the modern provinces of Navarre, Biscay, and the Asturias, Gallicia, Leon, and the two Castiles, Murcia, Valencia, Catalonia, and Aragon. Pliny has described this province with great precision: "It is divided into seven conventus, viz. Carthaginiensis, Tarraconensis, Cæsaraugustanus, Cluniensis, Asturus, Lucensis, and Bracarus; and it contains one hundred and seventy-nine towns, of which twelve are colonies, thirteen are towns of Roman citizens, eighteen of ancient Latins, one is confederate, and one hundred and thirty-five are stipendiary." At the time of its subjection to the Roman power, it was divided among many distinct and independent tribes, the most considerable of whom it may be sufficient to enumerate.

The following cantons were bounded by the Pyrenean Mountains and the river Iberus. The *Ausetani*, or Authetani, were placed near the sea-coast, at the north-east extremity of Spain, between the rivers *Sambroca* and *Rubricatus*, i. e. the Ter and the Lobregat. *Gerunda*, Girona, the capital, was situate on an eminence near the mouth of the Sam-

broca. *Ausa*, called Ausona in the middle age, now Vich, lay to the right of the Sambroca, and south-west of Girona. *Emporiæ*, Ampurias, near Prom. Pyrenœum, Cape de Creux, consisted of two parts, the one of which was inhabited by a colony of Phocoeans, and the other by the Indigetes, or natives of the country. *Rhodæ*, Roses, a small town with a fort, on a gulf near Emporiæ. Portius Cato, the consul, took possession of this place, A. U. C. 557.

Livy has mentioned a colony of Ausitani in the neighbourhood of the Iberus; but the precise situation of it has never been ascertained.

The *Cerctani* inhabited a district now called Cerdana, at the foot of the Pyrenees, near the source of the river Sicoris, or Segre. Not far from Mount Louis was *Julia*, now Llivia, the capital of that canton.

The *Valetani*, or Laletani, occupied the sea-coast between Gerunda and Tarraco, or between the rivers Sambroca and Rubricatus, in the neighbourhood of the Ausetani. *Barcino*, surnamed Faventia, now Barcelona, was founded by Hamilcar, near the mouth of the Rubricatus, or Lobregat. *Bætulo*, Badalona, anciently a small town on the sea-coast, near Barcino. *Blanda*, Blanes, a maritime town, near the peninsula and promontory, now called Cape Tossa.

The *Cosetani* possessed a small tract to the left of the mouth of the Iberus. *Tarraco*, now Tarragona, the chief town in that district, became the capital of Roman Spain, and was greatly improved by the Scipios. The Suessitani of Livy were a branch of the Cosetani, and settled in their neighbourhood.

The *Lacetani* had established themselves on the left bank of the river Sicoris, at some distance from the sea-coast. Cities: *Setelsis*, now Solsona, on a small stream to the right of the Rubricatus. *Uduxa*, Cordona, on the Rubricatus, and south-east of Solsona. Lower on that river, *Bacasis*, Manresa, was situate. *Telobis*, Martorell, at the conflux of the Noga and the Lobregat, below Manresa. The situation of Cissum is doubtful.

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The territory of the *Illergetes* extended from the river Sicoris, westward to the vicinity of a small stream now called Gallego, which loses itself in the Iberus at Saragossa. *Ilerda*, also called Athanagia, now Lerida, the capital, was situate on an eminence near the Sicoris, a municipium often besieged and plundered. *Octogesa*, in the middle age called Ictosa, now Mequinenza, at the confluence of the Sicoris and the Iberus. *Bergusia*, Balaguer, on the Sicoris, above Ilerda. *Jesona*, or Æsona, Jessona, to the north of Balaguer, on the confines of Ceretania. *Osca*, Huesca, an ancient and opulent town, sometime in the possession of the Illergetes, but situate in the territory of the Vescitani, near Mount Aragon.

The inconsiderable district occupied by the *Vescitani* environed Osca, and was bounded by the Iberus and the Pyrenees.

The *Jacetani* possessed a tract at the foot of the Pyrenean Mountains, north-west of Vescitania, now the northern extremity of Aragon. *Iacca*, Jaca, the capital, on the river Aragon, which descends from the neighbouring mountains, south-westward shapes its course, and falls into the Iberus below Calagurris.

The *Vascones* were established in a province now called Navarre, which extends from the Iberus to the Pyrenees. *Pompelo*, Pampeluna, was founded or improved by Pompey, near the foot of the mountains. *Calagurris*, surnamed Nasica and Julia, now Calahorra, a municipal town and colony, on the right bank of the Iberus, above its conflux with the Aragon; famous for the direful famine it underwent in the Sertorian war.

The *Varduii* were situate near the north-west extremity of the Pyrenees, in a district of Biscay now called Guipuscoa. *Menosca*, the capital, on the sea-coast, near the modern St Sebastian.

In the northern division of Provincia Tarraconensis, the following tribes were cantoned.

The *Caristi*, an inconsiderable tribe, inhabited part of Biscay Proper, to the left of the river Diva.

The *Autrigones* occupied a territory which extended from the Iberus to the Cantabrian Ocean, and now composes the greater part of Biscay. Cities: *Flaviobriga*, a sea-port near Bilboa. *Deobriga*, Miranda de Ebro, or somewhere to the left of the Iberus, on the confines of Biscay. *Virovesca*, Birbusca, to the south-west of Miranda de Ebro, near a ridge of mountains called Sierra d'Occa.

The *Cantabri*, a brave and warlike tribe, were cantoned near the source of the Iberus, and along the coast of Oceanus Cantabricus, or Bay of Biscay. Cities: *Juliobriga*, Val de Viece, the capital, below the springs of the Iberus, and near the northern extremity of Old Castile. *Portus Victoriæ*, St Andre, at the western boundary of Biscay, on the sea-coast. *Concana*, a maritime town, whose inhabitants were distinguished by their ferocity; now Santillana.

The territory of the *Astures* was bounded on the east by Cantabria, and by Callæcia on the west. The bulk of it is now called Asturias, and the remainder is included in Leon. Cities: *Asturica Augusta*, Astorga, a colony, with a conventus Juridicus, to the south of the city of Leon, at the foot of a range of mountains. *Brigæcium*, south-west of Astorga, at the northern extremity of Portugal, where Braganza lies; or, north-east of Astorga, near the situation of the modern Bracianos; or, lastly, it has been supposed that Oviedo was built on its ruins. *Legio Septima*, Leon, near the northern boundary of a cognominal province. In the vicinity of this city, the precise situation of *Lancia*, or Lanciatum, a place of great strength in the time of Augustus, cannot now be traced. *Lucus Asturum*, Luco, about two leagues from Oviedo, at a distance from the sea-coast, and near the centre of Asturias. *Flavionavia*, Aviles, a town of the Pæsicæ, near a promontory called Cape de las Penas. *Libunca*, Navia, on the sea-coast, at the mouth of a cognominal river.

The

The *Callaeci*, or Callaici, inhabited the north-west part of Tarracona, now Gallicia; and derived their designation from Calle, an ancient town, near the mouth of the Durius. They were divided into two classes, viz. Callaeci Lucenses, and Calleci Bracarii: the former occupying the north-west corner of the kingdom, and the latter a tract along the coast to the river Durius. Cities: *Lucus Augusti*, Lugo; near the source of the Minius. *Aquae Quintianae*, Sarria; about three leagues to the south of Lucus. *Burum*, Bivero; near prom. Trileucum, Cape Ortegal. *Brigantium*, Betanços; near the recess of a bay called Magnus Portus, now el puerto de la Corunna, *Adrobicum*, Corunna; to the left of the cognominal bay.

The district adjacent to prom. *Artabrum*, Cape Finisterre, was occupied by the *Artabri*, a tribe of the Callaeci; but no town of note, belonging to this tribe, has been specified.

The *Tamarici*, an inconsiderable and obscure tribe of the Callaeci, resided on the banks of the *Tamaris*, Tambre, a small river which discharges itself into the Atlantic Ocean, at the termination of Mount Lauro. Cities: *Ira-Flavia*, Padron; near the mouh of the rivulet Ulla, below the spot where St Jago de Compostella now stands. *Aquae Origines*, Caldas; on the Minho, opposite to the modern Orense. *Alobriga*, Bayona; in a peninsula to the right of the Minius. *Tyde*, or Tude, Tuy; on the Minius; a citadel of the Grovii. *Forum Limicorum*, Puente de Lima; near the *Limia*, Lethe. *Caliobriga*, Barcelos; on the left bank of the *Nebis*, Neiva, a small stream to the south of the Lima. *Bracaria Augusta*, Braga, a considerable town and conventus juridicus; on the river Cabado. *Calle*, Porto; on an eminence near the mouth of the Durius, and on the confines of Lusitania. *Interamnici*, Entremos os Rios; at the lapse of a small river into the Durius. The ruins of *Aquae Flaviae* may be traced at Chiaves, on the Tamega. These cities, or towns, were inhabited by the Tamarici, and other tribes of the Callaeci whose particular designations are not known.

The

The *Vaccaei* peopled both the banks of the Durius. Their territory, bounded on the west by Callaecia, and on the east by Arevacia, now constitutes part of the provinces of Leon and Old Castile. Cities: *Pallantia*, Palencia a conventus; on the river Carion, above its junction with the *Pisoraca*, Pisuerga, whose united streams now form the boundary between Leon and Old Castile, and fall into the Durius below *Pintia*, Valladolid. *Septimanca*, Simancas, on the Durius, near Pintia. The ruins of *Intercatia*, where Scipio Æmilianus slew a champion of the barbarians in single combat, have been discovered south-west of Palencia. *Segisamo*, surnamed Julia, now Burgos, eastward from Palentia, on the river Arlançon, which receives the Pisuerga, and falls into the Douro below Valladolid. *Lacobriga* was situate on the Pisuerga, north-west of Segisamo. *Rauda*, Roa, on the Durius, east of Pintia. *Cauca*, Cuca, south-west of Rauda, near the border of Arevacia, on the river now called Eresmo.

The *Arevaci* occupied the banks of the *Areva*, Arevallello, together with a territory that extends north-east to the Durius, and is now almost entirely included in Old Castile. Cities: *Segobia*, Segovia; near the source of the Eresma, where the ruins of a fine aqueduct are extant. *Litabrum*, Butagro, on the highway from Segobia eastward of Segontia. *Segontia*, Siguenza, near the springs of the Henarez. *Mantua*, Madrid; or a village now called Villa Manta. *Uxama*, Osma, on the Durius, north-west of Segontia. *Clunia*, near the site of Corunna, a principal town, and a conventus juridicus, near Uxama, on the Durius. *Numantia*, one of the chief cities in Spain, below one of the sources of the Durius, near Mons *Idubeda*, Sierra de Urbion; destroyed by the Romans under Scipio Africanus, or rather by famine after a siege of fourteen years. *Termes*, or Termantia, an ally of Numantia; long ago extinct.

The *Pelendones*, a branch of the Celtiberi, were confined to a small tract, near the springs of the Durius, at the foot of Mons Idubeda.

Their

Their chief town was *Augustobriga*, now Los Fajos, to the east of Numantia, on the confines of Aragon.

The *Berones*, a small tribe, were planted along the Iberus, in a district now called Rioxa, which anciently contained no town of importance, *Tritium*, north-west of *Calagurris*, Calahorra, excepted.

The *Celtiberi*, the most potent and warlike tribe of the native inhabitants of Spain, occupied a province that lies on the south-west side of the Iberus, near the sources of the Tagus and of the Anas. Celtiberia anciently comprehended a considerable part of Spain; but its limits were circumscribed after the war with the Romans. Cities; *Valeria*, Valera, a colony near the source of the *Sucro*, Xucar. *Ergavica*, a town of note among the mountains, near the springs of the Tagus. *Cæsada*, and Arriaca, between Segontia and Mantua, near the place where Guadalaxara now stands. *Arcobriga* near Monreal, or Cetena, eastward from Segontia. *Bilbilis*, Baubola, the birth-place of the poet Martial, and a municipium, on a cognominal river, also called *Salo*, Xalon, near the situation of Calatayud, a city founded by the Moors. *Nerobriga*, or Nertobriga, on the Salo, near the spot where Epila now stands. *Turiaso*, Tarraçona, a municipium, to the right of the Iberus, on a small river called Queilos, famous for its steel. *Cascantum*, Cascanto, on the Queilos, between Turiaso and Tutela.

The situation and extent of the small district occupied by the *Lobetani*, cannot be exactly ascertained. *Lobetum*, the capital, it is conjectured, stood near the modern Utiel, or Reguena, on the confines of New Castile and Valencia.

The *Egelestani* inhabited *Egelesta*, Iniesta, together with an inconsiderable adjacent tract to the west of Lobetum, and near the right bank of the river Cabriel, which originates in Sierra de Albaraçin, and runs southward to the Xucar.

The territory of the *Edetani* extended from the Iberus to the river Xucar, and was bounded by Celtiberia on the west, and on the east by

Ilercaonia. Cities; *Salduba*, or Cæsar Augusta, Saragossa, the capital, a conventus Juridicus, on the Iberus, at the northern extremity of the province. *Celsa*, a Roman colony, Xelsa, below Cæsar Augusta, on the opposite bank of the river. *Belia*, Belchete, on a small river which falls into the Iberus below Celse. *Carthago* Vetus, to the south of Celsa, about midway to Segobriga, near the north-west boundary of Valencia. *Turbula*, Tervel, near Albaraçin, below the conflux of the two small streams Guadaliavar and Alhambra. There the Edetani and several other tribes were defeated by Quintius Muncius A. U. C. 557. *Segobriga*, Segorbe, on the right bank of the *Morvidro*, Morviedro. Another town of the same name belonging to the Celtiberi, is supposed to have stood near Numantia. *Saguntum*, Morviedro, a colony from the island of Zacynthus, near the mouth of a cognominal river; destroyed by Hannibal, and restored by the Romans; famous for its clay. *Edeta*, or Leria, an ancient town, north-west of Valencia, to the left of fl. Turias, now the river Guadalaviar. *Valentia*, Valencia, on the Turias, founded by Junius Brutus, at some distance from the sea coast.

The *Ilercaones* extended southward from the mouth of the Iberus, in a district which now composes the northern part of the province of Valencia. Cities: *Dertosa*, surnamed Julia Ilergavonia, Tortosa, the capital; a colony and municipium, near the mouth of the Iberus. *Indibilis*, between Dertosa and Segobriga, now S. Matheo, or Xerr. Near this place the Carthaginians were defeated by the Romans under Publius and Cneius Scipio. *Ildum*, between Indebilis and Segobriga, near the sea coast.

The *Carpetani* were bounded on the west by the Vettones; on the north by the Arevaci; on the east by the Celtiberi; and on the south by the Oretani. The territory of that tribe now forms the middle of the province of New Castile. Cities; *Toletum*, Toledo, the capital, and a Roman colony, on the Tagus. *Mantua* was situate in the vicinity of Madrid, at the junction of two small rivers. *Contrebia*, Santavert, south-east of Mantua, on the border of Celtiberia. *Complutum*, Alcala, north-east

north-east of Mantua. *Titulcia*, midway between Mantua and Toletum, near the spot where Ilesca now stands.

The *Olcades* possessed a small district southward from Toletum; the capital of which was *Althæa*, Orgaz, or Orcana.

The *Oretani* inhabited the territory now called La Mancha, in New Castile, below the sources of the Anas. Cities; *Oretum*, Oreto, the capital, near Calatrava, or at no great distance from Los Ojos di Anas, the eyes of the Guadiana. *Laminium*, Alhambra, between Oretum and the Lagunas di Anas. Ptolemy ranks this town among the settlements of the Carpetani. *Libisosa*, Lesuza, a Roman colony, about seven miles eastward from the sources of the Anas. *Bigerra*, Bogerra, near Alcaraz, south-east of the source of the Anas. *Castulo*, Cazlona, on the Bætis, sometime in the possession of the Turduli.

The territory of the *Bastitani*, near the source of the Bætis, now forms the province of Murcia, and the eastern part of Granada. Cities; *Orcelis*, Orihuela, near the mouth of the *Tader*, Segura, at some distance from a cognominal lake, not far from the southern extremity of Valencia. *Vergilia*, perhaps Murcia, higher on the river. *Ilorcis*, Lorca, south-east of Orcelis, on the small river Guadalentin. *Carthago Nova*, Carthagena, a conventus, on *Sinus Virgitanus*, the bay of Carthagena, near *Prom. Scombraria*, Cabo di Palos; built by Asdrubal, and in one day taken by Scipio, A. U. C. 542.

Polybius, having made an actual survey of Carthagena, described it as follows. It is situate at the bottom of a gulf open towards the south. This gulf is about 20 stadia in length and 10 in breadth. In the middle of the entrance a small island breaks the violence of the waves, leaving on either hand a narrow passage for vessels. On all the other sides the harbour is protected by hills. At the bottom of the gulf there is a low peninsule on which the town stands. On the east and south it is bounded by the sea; and on the west there is a pool that extends northward, so that the neck of land which joins the

peninsule to the continent does not exceed two stadia. The adjacent hills are partly gentle eminences, and partly steep and rugged. On a high mountain westward there is a royal palace; and to the north are lofty hills. The town is about 20 stadia in circuit. From a rich silver mine in the neighbourhood, the Carthaginians daily extracted 25,000 drachms. *Bastia*, Baza, the capital, westward from Carthago, on the river Guadalentin.

The *Contestani* occupied a small part of Murcia, and of the southern extremity of Valencia. Cities; *Ilicis*, Elche, not far from the sea coast, in Spartarius Campus, which extended northward from Carthago to *Prom. Dianium*, Cape Martin. That plain derived its ancient name from the plentiful growth of spartum, or Spanish broom. The adjacent bay was called *Sinus Illicitanus*. *Lucentum*, Alicant, a sea-port town on the bay of Ilicis. *Sætabis*, Xativa, at some distance from the coast, on an eminence bathed by a rivulet that falls into the *Sucro*, Xucar, famous for its linen.

The islands near the Spanish coast, are;

1. The *Baleares*, or Gymnasiæ, or Chœrades, two in number, viz. Major and Minor. In the former were *Palma*, Majorca, and *Pollentia*, whose ruins are visible near Alcudia. In the latter, were *Iamna*, Cittadella; *Mago*, Port Mahon, &c.

2. *Capraria*, Cabrera, south of the Baleares.

3. *Pityusæ*, two islands opposite to the mouth of the Xucar and Cape Martin in Spain; the greater of which was called *Ebusus*, Ivica, an indifferently fertile island that yielded little grain, but plenty of olives and figs. It contained a tolerably well built and walled town, with a commodious port. *Ophiusa*, now Fromentera, a island of little note.

4. *Colubraria*, Colobre, a small desert island, nearly opposite to Saguntum.

The HISTORY of SPAIN during the Middle Age.

The Romans kept possession of Spain upwards of four hundred years. In the beginning of the fourth century of the Christian æra, when the Roman empire was in the decline, the Vandals, Silingæ, Suevians, Alains, and Visigoths, invaded and subdued great part of that province. The Suevians and Vandals established themselves in Gallicia; the Alains settled in Lusitania; and the Silingiæ in Bætica. The Vandals penetrated southward into the fertile plains of Bætica, from them called Vindalitia; and thence they passed into Africa. The Suevians, having reduced the other tribes, A. D. 429, laid the foundation of a monarchy, which subsisted 164 years.

Evaric, king of the Visigoths in Gaul, a brave and enterprising prince, annexed a considerable part of Spain to his dominions, A. D. 477. Hispania Citerior and Ulterior, A. D. 569, submitted to Leuvigeldus, who put an end to the Suevian monarchy. The Gothic empire was then in its most flourishing state; but from that epoch it gradually declined. In the reign of Rodrigo, the Saracens of Africa, under the command of Tarik, invaded Spain; ravaged Bætica and Andalusia; defeated the Goths near the river Xeres, A. D. 711 or 712, and overturned their empire, which had subsisted almost three centuries from its first establishment at Toulouse. In the space of two years, the whole kingdom submitted to the Saracen yoke, the mountains of Asturias excepted, whither the remains of the Goths fled for shelter, and where they founded a monarchy, which, in process of time, extended to all the principalities of Spain (see System of Chron. art. Spain). Viceroys were appointed by the caliphs of Africa. Zama, the fourth governor, reduced a great part of Gothic Gaul, A. D. 720. Abdourahman, the ninth who was promoted to that dignity, invaded the southern provinces of Gaul, but

was

was defeated in the month of October, A. D. 732, by Charles Martel, and Eudes duke of Aquitaine.

When the family of the Abassidæ were raised to the caliphate, A. D. 750, Abdourahman, the sole surviving prince of the Ommiadæ, fled into Spain, where he was elected king, in the year 755, by the Saracens attached to that family. No less prudent than brave, he secured to his heirs the possession of the throne. But their power was greatly weakened by the spirit of discord which raged among their subjects. Independent principalities were formed, and war was carried on against the Christians with various success. Irritated by the debaucheries and crimes of their princes, the haughty and turbulent nobles revolted, A. D. 1038, and expelled the Ommiadæ. This revolution gave a violent shock to the power of the Arabs in Spain. The governors of provinces, and many of the nobility asserted their independence. A sovereign was elected in almost every city; hence we read of the kings of Cordova, of Toledo, Sevile, Tortosa, Valencia, Murcia, &c.

While the Saracens remained masters of Spain, they built cities and towns, and introduced that taste for arts and letters, with that love of elegance, which, in those days, prevailed in the east. Specimens of their magnificence and splendor still exist in various parts of the kingdom.

The division of Spain into provinces, which was then introduced, and has hitherto subsisted, will be noted in the following description of the present state of the two kingdoms, into which it is unequally partitioned.

PORTUGAL.

PORTUGAL.

The limits of this kingdom are not the same with those of Lusitania. The latter was bounded on the north by the Douro; whereas the former extends to the Minho, including part of ancient Gallæcia. The eastern boundary is contracted, Emerita, the capital of Lusitania, being now in the centre of Estremadura, and Salmantica in the interior part of the province of Leon.

Portugal, the most western part of the European continent, derives its appellation from *Calle* a small town on an eminence near the mouth of the river Douro, and its adjacent port.

It is bounded on the north and east by Spain, on the south and west by the Atlantic Ocean, lying between 37° and 42′ N. latitude, and between 9° 40′ and 5° 50′ W. longitude from Greenwich, being 340 English miles from north to south, and 130 from west to east; containing about 27,376 square miles.

Climate, Surface, and Soil.—In the northern parts of the country, the winter's cold is piercing, and in summer the southern provinces are oppressed with heat. But spring is delightful; and the climate, on the whole, is more mild and salutary than that in Spain, being corrected by gentle sea breezes. At Lisbon the mean heat is 60° of Fahrenheit's thermometer.

In January the weather is cold, but is milder in February. Snow is extremely rare. The vernal equinox is followed by heavy rains and storms; thence to June the weather is variable. During summer the north and north-west winds prevail; but the greatest heat accompanies the

the east wind. From mid-summer to the middle of September rain is uncommon, every thing is parched up, so that a green blade of grass is scarcely seen. October, when the young grass springs up, is the pleasantest month of the year; but in the two following months storms and rains are frequent.

Though the surface of the country, in general, is uneven, yet there are many extensive plains. In the north-east corner there is a cluster of hills not immediately connected with any of the Spanish mountains. The chain, north of Madrid, enters Portugal near Guarda, and reaches south-west to the sea. The Arrabada ridge traverses Estremadura. In the province of Alentejo, there is a ridge about seven leagues in length, between Evora and Estremos.

The soil, for the most part, is light, and not equal in fertility to that of Spain. Where it is cultivated, its products are abundant; but agriculture is much neglected. More than half the country lies waste, and scarcely grain sufficient for three months consumption is raised. Wine, oil, honey, and wax are produced, together with variety of excellent fruits and pastures.

Mines, &c.—The mountains contain silver, copper, tin, lead, and iron ores; and in the northern provinces are traces of ancient mines. But all search for metals was abandoned soon after the discovery of the Cape of Good Hope and America, as an ample supply was obtained from the colonies established in the East and West Indies. In the vicinity of Castello Branca, there are mines of quicksilver; and in other districts, antimony, manganese, arsenic, coal, marble, &c. are found. There are noted mineral springs at Chaves, in Tralos Montes, and at Caldas in Estremadura.

The courses of the rivers are from east to west, and have been already described.

Population.—This kingdom contains 19 cities and burghs, 527 market towns, 3343 parishes, and about 3,300,000 inhabitants, including ecclesiastics, the number of whom may be 200,000. The same causes operate

operate here as powerfully as in Spain to prevent the increase of inhabitants, viz. the despotism of the internal government, the oppression of the lower classes, the enormous quantity of ecclesiastics, and the frequent emigrations to distant colonies.

Manners, &c.—The national character of the Portuguese differs little from that of the Spaniards: they are stern, proud, and irascible; attached to religion, but bigotted and superstitious rather than devout. However, it is probable their character will be meliorated by the expulsion of the Jesuits, the diminution of the papal influence, and by that spirit of independence with regard to commercial affairs, which is so much encouraged by the court and the ministry.

The nobles, whatever may be the cause, are composed of baser materials than any European nobility. In general they are distant, shy, and supercilious; and, conscious of their own ignorance, they are reserved to strangers, lest they should expose themselves to contempt. The common people are laborious, honest, civil, polite, courteous, and talkative; but they are the miserable vassals of gentlemen and priests.

The male sex are not handsome; and a tall man is rarely seen, the generality being short, fat, and square made. Their features are seldom regular, but their countenances are expressive. Their complexion is olive, eyes black, hair uncommonly strong, teeth white, lips projecting, and feet admirably shaped. In their habits and customs they do not now imitate so much the Spaniards as the English and French.

The quality are richly dressed: the common people wear a vest of various colours, as blue, black, dark-brown, &c. over which is a mantle with hanging sleeves, and a three cornered hat. Young ladies also wear a similar mantle, beneath which a fashionable dress is often concealed. Great coats and round hats are unusual among the natives. Women of the lower classes wear a handkerchief wound round their heads, so that a corner hangs down behind. The whole of the sex are extremely lively and loquacious, fond of dancing, singing, and merriment. The Cortejos, or attendants of persons of distinction, answer to the Italian

Cicibeos; but this custom is not always productive of bad effects, though appearances are not in its favour.

The furniture in the houses of the great is superb; the retinue of the domestic servants is numerous; but the interior economy of the family is moderate. Few of the apartments of the house are completely fitted up; the rest are bare white walls, with brick or deal floors; and though the bed furniture is gaudy, yet there is neither feather-bed nor mattress, but only straw sewed up in canvas. The expence of the table is inconsiderable. The food of the Portuguese is nearly the same with that of the Spaniards, and they are equally temperate. In the houses of the common people there is scarce any furniture at all.

The amusements of the higher orders are,—the Italian opera, billiards, cards, dice, and bull fights. Arts and sciences are entirely neglected, except by a few of the clergy. The uncleanliness of the natives is very offensive to strangers. It is no uncommon spectacle to see persons of condition openly killing the vermin found on their bodies, or permitting others to do it. A lady is frequently observed leaning on the lap of her waiting woman to be loused; and when any of the sex visit one another, they reciprocally perform this office by way of pastime.

Manufactures and Commerce.—Though this country yields the finest materials, yet arts and manufactures are neglected; and most of the products of the soil, together with the commodities imported from the Indies, are disposed of to foreigners in exchange for manufactured goods; so that the articles of use and convenience are chiefly furnished by the industry of strangers. The exports to European countries are wine, oil, fruits, wool, and silk,—sugar, tobacco, and spices,—Brasil wood, ivory, gold, and precious stones. The imports are clothing, food, hardware, materials for building, all articles of luxury,—ships, with naval and warlike stores for the American settlements. From the trade of Portugal, however extensive, little profit is derived. The balance is always in favour

vour of other nations, and the deficiency must be supplied by the gold of Brasil. If this fountain of wealth should fail, the country must resort to its own internal resources, or be undone.

Religion.—The established religion is Popery in all the excess of bigotry and superstition. The dignitaries of the church consist of one patriarch granted by the Roman Pontif A. D. 1716, three archbishops, and fifteen bishops, named by the king, and confirmed by the pope. A considerable proportion of ecclesiastics are monks and nuns. The inquisition was introduced by King John III. who began his reign A. D. 1521. There are four tribunals, each of which is independent, though with some subordination to the supreme council. But the power of this court has been converted into a state engine for the benefit of the crown.

Literature.—Little progress has been made in the cultivation of the arts and sciences. There is an university of an ancient date at Coimbra, and another founded at Evora A. D. 1553. At Lisbon there is a royal academy; at Santarem an academy of history and languages; and an academy of sciences at St Thomas. But these establishments and institutions have not produced the salutary effects that might have been expected. In a country where an illiterate and bigoted clergy bear sway, a spirit of liberal inquiry and of literary research is discouraged as hostile to the advancement of piety, or rather of superstition. It has accordingly been the uniform aim of that artful and interested body of men to perpetuate the reign of ignorance as the most effectual mean of keeping the people under subjection. No philosopher of eminence has appeared in Portugal; but some historians, poets, and dramatic writers have recently acquired considerable reputation.

Half the works now published consist of books of moral and religious instruction, and poems. Of prose writers in the belles lettres Portugal is destitute. The novels are mean productions. Literary history and philology are much neglected; and nothing is or can be done in theology. The best medical works are translations from the English. Mathematics and astronomy are at a low ebb. All the geographical publications

are but meagre extracts from the works of De Lima; and there is no accurate map of the kingdom. Natural history and chemistry have employed the attention of men of genius; but little new or important has been produced.

Government.—The form of government is monarchical;—the crown is hereditary;—and the eldest son of the king is styled Prince of Brasil. The states, or cortes, is composed of the clergy, nobility, and commons. The clergy are represented by the patriarch, archbishops, and bishops: the nobility are a numerous body divided into two classes, viz. *los titulados*, consisting of dukes, marquisses, counts, viscounts, and barons; and *fidalgos*, who are the inferior nobility and gentry. The commons are represented by deputies from cities and burghs. The meeting of the cortes, however, is discontinued. Among the chief departments of government are—the council of state, in which all the great affairs of the kingdom are transacted;—the council of war, in which all military matters are regulated;—the aulic council, or supreme court of justice;—the council of financies;—and the royal board of censure. In the superior courts of justice, the judges are appointed by the king; and in the inferior courts, by the proprietors of large estates. At Lisbon and Oporto, there are courts of appeal; and, from these, appeals are competent to the aulic council.

The orders of knighthood are four—1. That of Christ, instituted by King Dennis, A. D. 1283, and confirmed by Pope John in 1319. 2. The order of St James, instituted in the eleventh century, and compleatly established in 1290. 3. The order of Aviz, instituted by Alfonzo, in 1147. 4. The order of Malta, instituted in Portugal in 1157. These orders have commenderies and revenues annexed to them.

Revenue.—The revenue of the crown is upwards of L. 2,000,000 Sterling, arising from hereditary estates and demesnes; from duties and customs on goods exported and imported; a tax on land and cattle; a tax on the several orders of knighthood; the sale of indulgencies; ecclesiastical

siastical tythes in foreign countries; the duty of the fifth part of all the gold mines of Brasil; the monopoly of Brasil snuff, and other sources.

Military forces.—The army is computed at 25,000 men, besides a considerable body of militia. The fleet, once powerful, is now reduced to ten or twelve sail of the line, and a few frigates, most of which are unfit for service.

History.—Portugal was successively occupied by the Phœnicians, Carthaginians, Romans, Alains, Swabians, and Visigoths. In the eighth century, it was over-run by the Moors and Saracens. Henry Duke of Burgundy, having aided Alfonzo VI. king of Castile against the Moors, received from him the absolute property of this kingdom. His successor Alfonzo I. gained a signal victory over five Moorish kings, A. D. 1139, and was proclaimed king by his army on the field of battle. In 1148, by the assistance of a fleet of cruzaders, he seized Lisbon, the capital of the kingdom. This may be considered as the epoch of the Portuguese monarchy. Alfonzo II. A. D. 1217, defeated the kings of Cordova and Bodajoz. The commencement of Sancho II.'s reign was auspicious; but he soon committed the kingdom to the care of favourites, and sunk into a course of debauchery. Dionysius founded an university at Lisbon A. D. 1290, which, in 1308, he removed to Coimbra. Alfonzo IV. A. D. 1340, gained over the Moors the famous battle of Salado, where, according to the accounts of Spanish writers, 200,000 Moors perished. He was likewise successful at sea against the Moors of Africa. From the year 1369 to 1431, the kings of Portugal had frequent contests with those of Castile; and the success was various. John I. obtained a signal victory over John King of Castile at Aljubaroba, A. D. 1385, in commemoration of which he built a monastery there. The year 1420 is noted for the naval enterprises of the Portuguese. The computation of time by the years of the Christain æra was introduced A. D. 1422. In the reign of Edward, A. D. 1437, an unfortunate expedition was made into Africa; but several expeditions into that country, undertaken by Alfonzo V. were successful. The course to the East Indies,

dies, by the Cape of Good Hope, was discovered A. D. 1492. During the reign of Emanuel, voyages of discovery were accomplished, under the command of Di Gama and Alvarez. Almeyda established settlements at Narsingue, Quiloa, Cananore, Cochin, &c.; and Lorenzo, his son, took possession of the Maldives and of Celon. Albuquerque, A. D. 1507, reduced the island of Ormus, and afterward that of Goa. Other places in the East Indies were visited by the Portuguese. John III. A. D. 1526, established in Portugal the tribunal of inquisition; and planted a colony in Brasil. Sebastian, A. D. 1578, invaded Africa, where he lost his army and his life. After the death of Henry I. A. D. 1580, Philip II. King of Spain sent the Duke of Alva into Portugal, took possession of that kingdom, and made his public entry into Lisbon the year following. In 1604 the Dutch seized the Molucca Islands as a prelude to farther conquests. They gradually undermined the power of the Portuguese, and took possession of the greater part of their settlements in Asia. In the reign of Philip IV. of Spain, A. D. 1640, the Portuguese revolted, and proclaimed John Duke of Braganza their sovereign. This brave and prudent prince secured himself on the throne, and enjoyed the affection of his subjects. War, which had been carried on between Spain and Portugal twenty-six years, was terminated, A. D. 1668, by a treaty which acknowledged the independence of Portugal. Peter II. A. D. 1701, entered into an alliance with France and Spain, against the house of Austria and its allies; but, two years after, he violated this treaty, and acceded to a league which the Emperor had formed with England and Holland against Spain and France. His successor John V. prosecuted the war with vigour, but not with success. Peace was concluded, in 1713, between France and Portugal; and, in 1715, between Portugal and Spain. An earthquake, Nov. 1. 1755, destroyed Lisbon and 150,000 inhabitants. The life of Joseph, A. D. 1758, was endangered by a band of assassins; and in the following year the Jesuits were expelled from the kingdom. In 1762, war was declared against Spain.

In

In 1768, &c. the exorbitant power of the inquisition was greatly abridged; abuses in the army were corrected; and salutary regulations were introduced into colleges and universities. This monarch died A.D. 1777, and was succeeded by his daughter Maria Frances Elizabeth.

Maps.—Portugal is commonly included in the maps of Spain. There are likewise many particular maps of this kingdom. Among these may be mentioned that of Seccus, engraved with some improvements by Vischer, Danckert, Schench, and Homann. Nolin published another, which was republished by Homann's heirs. A general map, and six provincial maps of Portugal, are inserted in Luiz Gaetano De Lima's Geographia Historica. A map of Portugal was published by M. Bellin; another by T. Jefferys in 6 sheets; a third by Rizzi Zannoni; but all of them are inaccurate.

Besides several islands in the Atlantic, the kingdom of Portugal is divided into six provinces, each of which is subdivided into *Comarcas*, or jurisdictions. The names of the provinces are, 1. Entre Minho Douro, 2. Trazos-Montes. 3. Beira. 4. Estremadura. 5. Alentajo. 6. Algarvez.

I. ENTRE MINHO DOURO.

1. The province of Entre Minho Douro, so called from its situation, between the rivers Minho and Douro, is the most northerly, the most fertile, and the most populous territory in the kingdom. It is bounded on the east by Trazos-Montes, and on the west by the ocean; extending from 40° 50′ to 42° N. latitude, and 8° 55′ to 7° 55′ W. longitude, being 70 miles in length, and 52 in breadth; containing 963 parishes, 1460 churches, 1130 convents, 6 sea-ports, and 804000 inhabitants. Its numerous and fine vallies are shaded by beautiful trees, and watered by limpid streams. The principal rivers in this province are—the Minho, the Lima, the Neiva, the Cavado, the Ave, the Douro augmented by the Tamega; all of which run westward to the sea.

Cities, &c.—*Braga*, the capital, an ancient, considerable, indifferently built, and thinly inhabited manufacturing city, containing a cathedral, 4 churches

churches, 8 convents, 2 hospitals, a seminary, and upwards of 11,000 inhabitants, on a rising ground, in a fruitful plain or valley, watered by the Cabado, 5 leagues from the sea coast, and 10 northward of Porto. Many Roman antiquities found in this place are indications of its former importance. It was founded by a colony of Gauls, B. C. 296, and was the seat of several councils.

Caldas de Gerez, a village consisting of 40 houses, in a confined but pleasant valley, noted for its warm baths, north of Braga, and 3 leagues from the frontier of Gallicia, in a hilly, bleak, and rugged territory called Sierra de Gerez, that extends from east to west and sends out branches southward. Those hills, abounding in rocks, heaths, thickets, and dangerous precipices, are infested with wolves, lizards, and snakes. Some patches on the declivities and in the vallies are carefully cultivated.

Porto, or Oporto, is a rich, well-built, trading town and bishop's see, agreeably situate on a declivity bathed by the Douro, near the south-west extremity of the province, within a league and a half of the sea. Inaccessible toward the sea, secured behind by a mountain, and defended by a castle, it contains 6 parishes, 12 convents, several hospitals, and 30,000 inhabitants. It is noted for its strong wines, a large quantity of which is annually exported. Most of the streets on the declivity are narrow, crooked, and dirty; but below these are some broad streets and handsome houses. Opposite to the town the river is deep; but the harbour is of difficult entrance. The adjacent soil, though well cultivated, is not fruitful. To the eastward the country is hilly on the north side of the river. The climate in winter is damp and unwholesome; in summer the heat is intense. The town of Calle on the opposite bank of the river does not exist; but near its site is Villa Nova da Gaya, in a populous tract.

Caminha, an inconsiderable fortified town, built or repaired by Alfonso III. containing a parish church, 2 hospitals, 2 convents, &c. at the mouth of the Minho and influx of the Coura. Upon an adjacent island there is a small fort. Villa Nova de Cerveira, a small town containing about 600 inhabitants, defended by a fort, in a bottom environed by eminences,

eminences, several leagues above the mouth on the Minho. Valença de Minho, a fortified town, containing 2 parishes, 2 convents, an hospital, and 900 inhabitants, on an eminence separated from Tuy by the river, four leagues above Villa Nova. Monçao, an ancient little walled town, rebuilt by Alphonso III. A. D. 1261, about three leagues above Valença, on the left hand of the Minho. Melgaço, an inconsiderable place, defended by a fort, founded by Alfonso, A. D. 1170, on the Minho, N. E. of Monçao.

Viana, a considerable, indifferently built town, founded by a colony of Gauls, B. C. 296; rebuilt by Alphonso III., A. D. 1260; containing two parish churches, seven convents, an hospital, &c., seven leagues N. W. of Braga, near the mouth of the Lima, with a harbour of difficult entrance. It is environed by a wall, and towards the sea is defended by Fort St Jago.

Ponte de Lima, a tolerably built town, containing a collegiate church, three hospitals, two convents, an academy founded A. D. 1780, on the Lima, three leagues E. of Viana. This place has been several times demolished. Arcos do Valdevez, a little burgh on an eminence E. of Ponte de Lima, near the influx of the rivulet Vez into the Lima.

Esposende, a little port town, at the mouth of the Cavado, three leagues south of Viana. Its shallow harbour is slightly protected by a fort. Barcelos, an inconsiderable, walled burgh, containing a parish church, a convent, an hospital, &c. eastward of Esposende, on the right bank of the Cavado.

Villa de Conde, a populous maritime town of no great extent, with an indifferent haven, about four leagues S. of Esposende, near the mouth of the Ave.

Guimaræns, a considerable walled town, 1850 paces in circuit, containing 4 parish churches, 8 convents, 4 hospitals, and about 6000 inhabitants, defended by a castle, 6 leagues E. of Villa de Conde, and 4 S. S. E. of Braga; situate partly on an eminence and partly in a plain.

Amarante, a burgh founded by the Turdetani, B. C. 360, containing 1000 inhabitants, on the Tamega, 5 leagues E. S. E. of Guimaraens. Canavezes, a place of little note, founded in the 12th century by a daughter of Sancho I. on the Tamega, a few miles below, i. e. S. of Amarante.

Pezo de Regua, a market town containing 315 houses, and 1040 inhabitants, southward of Amarante, on the south declivity of a hill bathed by the Douro, and famous as a depot for port wine. The bed of the river is stony, and in summer navigable for small boats only. The hills are covered with vines and neat houses. In that neighbourhood, a district four geographical miles long and three broad, containing 12,895 houses, and 44,660 inhabitants, produces annually 90,000 pipes of port wine.

2. TRAZOS MONTES.

Tralos, or Trazos-montes, an appellation derived from the position of this province with respect to Entre-Minho Douro, composes the N. E. part of the kingdom, lying between 7° 50′ and 6° 0′ W. longitude, being 18--25 leagues from north to south, and 28 from west to east. Separated from the foregoing province by a ridge of mountains, it contains some fertile plains and vallies yielding wine and fruits; but, for the most part, it is rugged, barren, and thinly inhabited. There are reckoned in it 550 parishes, 2 cities, 50 small towns, and 155,808 inhabitants.

The principal rivers are—the Douro which forms the S. E. and S. boundary of this province; the Tamega, which descends from Galicia and runs S. S. W. to the Douro; the Tua or Tuelo, and the Sabor, both of which originate in the audience of Bragança, and flow southward to augment the Douro.

Cities, &c—*Villareal*, the capital, built by King Dennis, is a small walled town, 16 leagues eastward of Porto, in the S. W. corner of the province, between the rivulets Corgo and Ribera, which fall into the Douro,

Douro, containing 2 churches, 2 hospitals, 3 convents, and 2600 inhabitants. Most of its houses are without the walls.

Chaves, a small old walled town, with two suburbs and two forts, commanded by neighbouring eminences, near the northern border of the province, on the river Tamego, which flows S. S W. to the Douro. Besides a Roman bridge, there are still some traces of its ancient grandeur.

Bragança, one of the most ancient towns in the kingdom, near the N. E. corner of the province, in a plain watered by the Fervença. Surrounded with a wall and towers, and defended by a castle, it contains several silk manufactures, and about 2800 inhabitants. Here John II. was raised to the throne of Portugal.

Miranda, an inconsiderable place, formerly fortified, in a barren and mountainous territory, near the right bank of the Douro and frontier of Spain, 25 leagues E. N. E. of Villareal. *Torra de Moncorva*, a small town containing 1200 inhabitants, formerly environed with a wall and defended by a fort, on the declivity and at the foot of Mount Roboredo, in a fertile tract near the S. E. extremity of the province, a few miles from the influx of the Sabor into the Douro.

Freira de Espada na Cinta, Mirandella, Villa-Flor, Chacim, &c. are places of little note, that merit no description.

3. BEIRA.

Beira, the largest province in Portugal, is bounded on the north by the Douro, on the east by Leon in Spain, on the south by Estremadura, on the west by the ocean, lying between 39½° and 41° 10′ N. latitude, and between 8° 45′ and 6° 10′ W. longitude, being 25—40 leagues from north to south, and 37---45 from west to east, containing 560,000 inhabitants.

It is sometimes divided into upper and lower, the common boundary of which is a chain or ridge of mountains called Sierra d'Estrella, anciently Mons Herminius, lying north-east and south-west. One part of this ridge is remarkable. From Villa S. Romas, at the foot of it, the as-

cent to the summit employs 2½ hours. In several places the ridge is seen to be hollow, and even the noise of a stream running through it is heard. It contains a fine quarry of alabaster, and on the top are springs and verdant pastures. In one part is a profound lake environed by rocks. The principal products of this province are wheat, rye, and millet, with excellent wine and oil.

Rivers.—The Douro forms the northern boundary of the province. The Vouga originates in Serra d'Alcoba, runs westward, and loses itself in a lagune or inlet of the sea, crowded with sand banks and islets. The Mondego has its source in Sierra d'Estrella, S. S. W. of Guarda. Thence it proceeds 8 or 10 leagues N. N. W. and afterwards S. W. augmented by many streams and rivulets in its progress to the sea, into which it falls at Buarcos. This river frequently overflows its banks, and inundates the adjacent country, during winter. The Coa traverses the eastern part of the province from S. to N. and falls into the Douro near Villa Nova de Foz-Goa.

Cities, &c.—*Coimbra*, the capital, and a bishop's see, is an ancient, indifferently built, town, containing an university founded A. D. 1291, a fine cathedral, 9 churches, 18 convents, and 12,000 inhabitants. It is situate partly on a rocky declivity at the extremity of a plain, and on the declivity of a hill bathed by the Mondego, about 23 leagues south of Porto, and 7 from the sea. The bridge and aqueduct are greatly admired. The streets in general are narrow, crooked, dirty, and some of them are very steep, but there is one broad street on the plain. This city, now greatly declined, formerly withstood many sieges, and its walls still remain. Its manufactures are few, and its trade inconsiderable. There is a dangerous bar at the entrance of the river. The neighbouring country, though hilly, is fertile and well cultivated. The hills are covered with oaks and pines; the well watered vallies, ornamented with villas and gardens, yield fruits and olives in abundance. Northward to Aveiro, the country is uninteresting. *Miranda de Corvo*, an inconsiderable town on the Dueça, which loses itself in the Douro. Montemor-o-velho,

a small town, containing several churches and hospitals, and 1800 inhabitants, below Coimbra, between two branches of the Mondego.

Aveiro, a trading town, situate in a marshy and unhealthy tract, 10 leagues south of Oporto, on the level coast of a bay, into which the Vouga discharges itself, and where it forms several islands and banks of sand. It contains 4 churches, an hospital, 6 convents, and 3000 inhabitants. Here is a nunnery into which none are admitted but daughters of the ancient nobility. The houses are generally small, and the old wall, by which the town was surrounded, remains. The harbour is shallow, with a bar across, and the trade inconsiderable. The left branch of the Vouga runs S. to the sea; the other branch, extending N. to Ovar, is properly a lake of water nearly fresh.

Ovar is a tolerably built market-town of 1300 houses, in a well cultivated tract. *Feira*, an inconsiderable town, founded in the beginning of the 11th century, in a pleasant valley, 5 leagues south of Porto, at some distance from the sea-coast.

Viseo, an old town and bishop's see, containing 3 parish churches, 3 convents, an hospital, and 5700 inhabitants, in a fruitful plain, near the situation of the ancient Vacca, 18 leagues S. E. of Porto, and 17 E. of Aveiro, between the rivers Mondego and Vouga. Here are some vestiges of two Roman towers. This place is noted for an annual fair, and for tin mines long ago deserted. The country north of the plain is hilly, and the soil indifferently fertile; to the southward lie the Sierra d'Estrella and its branches, inclosing some delightful, well cultivated, and populous vallies. Ferreira de Aves, Olveira de Conde, Taboa, &c. are inconsiderable places in the district of Viseo.

Lamego, founded by a colony of Greeks from Laconia, and famous for a convention of States held by Alfonso Henriquez, is a town and bishop's see, containing 2 churches, several convents, an hospital, and 5000 inhabitants, situate 15 leagues eastward of Porto, on the left hand of the Douro, in a flat territory, bounded by hills. The soil southward

is bad, the climate is cold, the inhabitants are poor, and the villages miserable. *Villa nova de Porto*, a little town built by Alfonso, A. D. 1255, on the left bank of the Douro, opposite to Porto.

Pinhal, a small town and bishop's see, fortified with a wall and towers, 19 leagues eastward of Viseo, on the declivity of a mountain bathed by the Coa, a small river that runs N. N. W. to the Douro. *Almeida*, a strongly fortified town, containing about 2500 inhabitants, on a hill above Pinhal, bathed by the Coa, near the border of Leon. The Spaniards made themselves masters of this town, A. D. 1762.

Covilhao, a flourishing manufacturing town, a few leagues south-west of Guarda. The adjacent country is mountainous and rocky, with pleasant vallies interspersed, and some lakes falsely supposed to ebb and flow with the sea. These mountains are a branch of the chain that divides Old and New Castile. Their south and south-west declivities are rugged and wild, being composed of heaped up rocks. *Guarda*, a strong town and bishop's see, containing a cathedral, five churches, two convents, an hospital, and about 2000 inhabitants, &c. on Mount Estrella, near the source of the Mondego.

Castello Branco, a walled town, containing two churches, two hospitals, two convents, a bishop's palace, an old castle, and about 3500 inhabitants; 26 leagues south-east of Coimbra, in the south-east corner of the province, on an eminence near the Ponsul, and Veresa, two small streams which run south-west to the Tajo. Penamacor, a small town defended by a castle, twelve leagues north north-east of Castello Branco, in a barren and mountainous country near the frontier of Spain. Salvatierra, an inconsiderable town in the district of Castello Branco, and south-east corner of the province, four leagues north of Alcantara.

4. ESTREMADURA.

Estremadura, i. e. Extrema Durii, is bounded on the north by Beira, on the east and south by Beira and Alentejo, on the west by the ocean;

ocean; lying between 38° and 40° N. latitude, and obliquely between 7° 10′ and 9° 30′ W. longitude; being 140 miles from north to south, and 70 in breadth; containing 5,440 square miles, 8 jurisdictions, 400 parishes, and 350,760 inhabitants. Several districts are abundantly fertile, yielding grain, wine, oil, and fruits. There are some hilly tracts in the east and south parts of the province.

Rivers.—The Tajo flows from north-east to south-west, and near its mouth forms the spacious port of Lisbon. The Sador, or Sado, imporperly called Cadaon and Caldas, descends from a ridge of hills on the south frontier of Alentejo, and runs north and north north-west, by Porto del Rey and Alcaçerdo-Sal, to Setuval, below which it loses itself in the sea.

Cities, &c.—*Lisbon*, Olisipona, or Olisibona, the metropolis of Portugal, the royal residence, and seat of the inquisitor general, was formerly built in the figure of a crescent on several little hills, 15 miles above the mouth of the Tajo and on the right bank of that river. It contained several magnificent churches, 50 colleges and convents, two elegant palaces, Paços de Alcacova a castle commanding the town, several handsome squares, and 150,000 inhabitants. It was about six miles long, and was surrounded by a single wall, on which were 77 antique towers of no great strength. On the river side the wall had 26 gates, and on the land side 17. The streets were narrow, dirty, and some of them very steep.

The houses of the citizens were generally mean; but those of the nobility and gentry, built with stone, made an elegant appearance. Such was the state of this city, when, on November 1st, A. D. 1755, it was almost entirely destroyed by an earthquake. It has been re-built on a regular plan. In the old town the streets are narrow, and the houses ill built. On the summit of the highest eminence are the remains of the ancient fortress, or citadel, where a work-house is now established. The cathedral is a gothic edifice, richly ornamented; and the patriarchal church is noted for the royal sepulchres it contains. The modern part of the city is elegantly and regularly built. The exchange, the India house

house, and other public edifices are constructed in a magnificent style. The superb aqueduct, by which water is conveyed, for the space of two leagues, to the city, was not materially injured by the earthquake. It passes over a deep valley supported by archs, the largest of which is 230 feet 10 inches French in height, and 107 feet 8 inches broad. The environs of Lisbon, on the east, west, and north, are covered with gardens, villages, and handsome seats: but inland, at some distance, the country is hilly, and to the north-west appear the mountains of Cintra, which lie north-east and south-west. The harbour is spacious and deep, but of difficult entrance; the trade of this place is extensive; and the number of its inhabitants about 200,000.

The most dreadful effects were produced by the earthquake abovementioned in other parts of Portugal. St Ubes, a considerable and fortified sea port town, with most of its inhabitants, perished. Faro, a port town in Algarvez, shared the same fate; and all the towns along the coast from Cape St Vincent to the river Ayamonte were damaged. Many mountains were split, and huge masses were rolled into the adjacent vallies. The principal rivers overflowed the countries through which they passed. The Tajo, at Toledo, 100 leagues from Lisbon, rose to the height of 10 feet.

Belem, an inconsiderable burgh, to which the court retired after the earthquake, A. D. 1755, a league west of the capital. In its vicinity is a convent, whose church is remarkable or its architecture. At the mouth of the Tajo, the castle of St Julian, an irregular pentagon is founded on a rock whose base is washed by the sea. Opposite to this castle is a smaller one on an island, which, together with St Julian's, defends the entrance of the river.

Cascaes, a small fortified sea-port town, containing 1300 inhabitants, pleasantly situate on the bottom of a bay between Lisbon and Cabo da Rocca; frequented by merchant ships and smuggling vessels. Mafra, a little village nine leagues north of Lisbon; near which, in a sandy desert,

at

at some distance from the sea-coast, King John V. built a magnificent palace, 700 feet on every side, begun in 1717, and finished in 1731. In raising this edifice, 12000 workmen were employed. The first division of the road from Lisbon to Mafra, lies through a romantic but well cultivated country; afterwards the fields assume an Highland appearance, and the inclosures are of loose stones on each other, as in Derbyshire. To the left is the view of Cape Roque, and to the right is the royal park, 3 leagues in circuit.

Cintra, an inconsiderable place at the foot of a hill, where John I. built a palace, beween Mafra and Cascaes, six leagues north-west of Lisbon. The houses of the town lie dispersed in a picturesque manner. The coolness of the nights, the rocks, gardens, and woods, render this a delightful residence in summer. To the westward, at the base of the ridge of hills, is Colares, a market town, noted for its orchards and its wine. Cabo da Rocca is the termination of that flat, desert, and lonely ridge, whose height towards the sea is 50--80 feet. Near the extremity there is a light-house. Alhandro, Villa Franca, &c. are little towns near the Tajo, above Lisbon.

Torres Vedras, *i. e.* Turres Veteres, an old town, containing four parish churches, and 2000 inhabitants, near the rivulet Sizandro, four leagues north north-east of Mafra, among the mountains, on an acclivity in a territory producing all kinds of fruit. Thence to Obedos, five leagues northward lies an ill cultivated and thinly inhabited country.

Obedos is an insignificant town round an eminence, on which are the ruins of an old fortification. A league thence is Caldas, a little town, frequented in Autumn for its sulphureous waters, three leagues from the sea. The neighbouring tract is well cultivated, but sandy and diversified with pine woods. The road to San Martinho, a little market town, two leagues from Caldas, lies over low hills and through a sandy country. The harbour of San Martinho is a round bason, with a narrow entrance for small ships. To the eastward a ridge of sandstone hills runs parallel

to the sea; at the north extremity of which, in a valley, is the rich monastery of Alcobaca.

Alenquer, a small town on a rising ground, containing five parish churches, three convents, &c. between Santarem and Lisbon, near a cognominal rivulet that runs southward to the Tajo. The hills of Cintra consist of large rocks of flint lying on one another without connection. They abound in plants and ore; and contain a vein of magnet, with many deep caverns. Near the summit of that ridge are the ruins of a Moorish fortress.

Santarem, so called, from St Herena, a martyr, who lies buried there, is an ancient town resembling a half moon, environed by an old wall, and defended by a citadel called Alcaçova, 18 leagues N. E. of Lisbon, partly on a hill, and partly on the right bank of the Tajo, containing 13 churches, a considerable number of convents, and 8000 inhabitants. In the upper town is an old citadel. In summer the river is very shallow, but the tide reaches within a league of the town. The road to Lisbon lies along the bank of the river,—across sandy hills covered with heath and pines,—through cornfields, gardens, and the following towns, Cortacha, Azambuja, Castanheiro, Villa Franca, Alhandra, Alveroa, Povas, and Saccarem, whence there is a continual succession of houses to the capital.

Torres Novas, a small town, containing four parish churches, on the right hand of the Tajo, 8 leagues N. E of Santarem, in a fruitful plain watered by the Almonda. It is walled and defended by a castle flanked with towers.

Thomar, a regular and indifferently built town, containing two parishes, four monasteries, and upwards of 4000 inhabitants, in a plain almost covered with olive trees and gardens, a few leagues N. E. of Torres Novas. The hills northward are alternated with limestone and sandstone; the vallies are cultivated. The road S. W. to Santarem leads first over an ill cultivated sand-hill, and then through an extensive

tensive and fruitful plain, containing Golegam, a flourishing market-town, and some villages. Salvaterra, a royal seat, 6 leagues below Santarem, on the left bank of the Tajo.

Setuval, or St Ubes, a considerable, populous, trading town, seven leagues south of Lisbon, on a small bay at the mouth of the river Cadaon, or Sado. Founded during the reign of the first king of Portugal, it gradually increased, and was environed by a wall in the middle of the 14th century. In 1782 it contained four parishes, 14 convents and religious houses, and 17464 inhabitants. Opposite to the town is a projection of land, anciently called Cetobriga, now Troye, where the ruins of many edifices and other monuments of antiquity are traced. The Sado, by which it is bathed, is a league in breadth, and divided longitudinally, by a sand bank, into two equal parts, both of which afford good anchorage for ships. Albarquel Fort is advantageously situate to defend the narrow entrance into the river. The castle of St Philip was built by Philip II. North-east of the town, there is a fertile spot bounded by Mount Palmella; but wastes, covered with heath and pine-woods, extend east and south-east. The vallies are watered by small streams, which descend from upper Alentejo, and are thinly peopled.

Cezimbra, a small town in a hollow, W. of Setuval, on the sea-shore, with an ill protected harbour, on the south side of Sierra da Arrabida, a barren ridge of hills, which rises out of a sandy plain at Palmella, and to the westward terminates at Cabo d'Espichel.

Alcazar do Sal, a town of 650 houses, about 30 miles E. S. E. of Setuval, in the road to Beja. The banks of the river Cadaon are full of salt-pans, and cultivated to some distance, behind which the desert heaths begin; and S. S. E. to Grandola are 3 leagues of sandy heaths and pine woods, with little cultivated land.

Grandola, a mean town of 800 houses, with little trade, between Cadaon and the sea-coast. Behind the town is the Sierra da Grandola,

that proceeds in two ranges, one behind the other, from east to west. Along the sea-coast are tedious heaths, marshes, and deep sands.

Abrantes, a fortified town, containing 3000 inhabitants, 12 leagues eastward of Santarem, on a fruitful eminence, bathed by the Tajo. The borders of the river thence to Lisbon are fertile and agreeable. Soure, near the north-west extremity of the province, is noted for the defeat of the Castilians by John I. A. D. 1385.

Leiria, a mean town, and a bishop's see, in a valley, with a Moorish castle on an eminence, between the rivers Liz and Lena, 11 leagues northward of Santarem, and 6 from the sea-coast. This town, sometime a royal residence, contains 2 parish churches, 4 convents, an hospital, and about 4000 inhabitants. Aurem, a burgh, on a hill of difficult access, contains a parish church, a convent, an hospital, &c. about six leagues south-east of Leiria.

Pombal, a neat market-town, in a pleasant and well cultivated tract, with the ruins of a castle on an eminence, and a palace of the famous Marquis of Pombal.

Condeixa, a little town, famous for its oranges, is situate five leagues north of Pombal, near a ridge of hills, in a fertile and hilly but cultivated and populous country that reaches to Coimbra.

Alcobaca, a considerable, manufacturing, market-town, 5 leagues south-west of Leiria, between the rivulets Alcoa and Baca, not far from the sea coast. Here is a Cistercian abbey, founded by the king of Portugal, A. D. 1148, and possessed of a revenue amounting to £. 20,000 a-year. The environs are agreeable, and diversified with coppice and meadows. At the distance of 3 leagues is Batalha, noted for its monastery. Between Alcobaca and Leiria, on a long flat summit of a hill, stands the little market town of Aljubarota; near which, A. D. 1386, John I. gained a great victory over the Spaniards, minutely described by Camoens.

Peniche, a small fortified place, 15 leagues north of Lisbon, on a peninsule environed by rocks, opposite to a little island called Barlengas. Its harbour

harbour is defended by a citadel and forts. The adjacent country is filled with Moorish posts, but is thinly inhabited.

5. ALENTEJO.

Alentejo, an extensive province, styled the granary of Portugal, is bounded on the north by Estremadura, on the east by Spain, on the S. by Algarvez, and on the west by the ocean; lying between 37° 25′ and 39½° N. latitude, and between 8° 55′ and 6° 37′ W. longitude from Greenwich; being 55 leagues from south-west to north-east, and 17---40 in breadth. Some districts are sandy, mountainous, and barren; others are level and fertile, yielding wine, oil, and fruit. The soil is of three kinds, viz. black fat earth,---earth mixed with sand,---and barren sand. Between Evora and Estremos there is a ridge of hills which properly belongs to the chain of Toledo. The rivers are rapid, and frequently do much damage. This province is supposed to contain 358 parishes, 5 burghs, 104 market towns, and 308000 inhabitants. The Guadiana is the principal river by which it is watered.

Cities, &c.---Evora, or Elvora, an ancient large, not populous, walled city, and archbishop's see, containing 5 parish churches, 23 religious houses, and 12000 inhabitants, without trade and manufactures, is situate on a gentle eminence, in a fruitful plain surrounded by hills, near the centre of the province, 24 leagues to the eastward of Lisbon. Formerly it was fortified with 12 bastions, and 2 half bastions, and defended by a castle, now in ruins. Here are some remains of an aqueduct constructed by John III. and of other ancient edifices. The streets are narrow, crooked, and full of angles. The cathedral, and other buildings, are high, and in the Gothic style. The hills round the town are adorned with gardens, and their summits are shaded with evergreen oaks. Thence to Montemor o Novo, a distance of five leagues, the road passes over granite hills, partially covered with woods, corn-fields, and pastures.

Estremoz,

Estremoz, a fortified ill built town, containing three churches, six convents, two hospitals, and 6500 inhabitants; pleasantly situate on a rising ground in a fertile country, seven leagues north-east of the capital; and famous on account of a victory gained by the Portuguese over the Castilians, A. D. 1663. In its neighbourhood there is excellent marble. The country on the west side of the town, is pleasant and well cultivated, abounding in orange gardens and laurels; but at some distance all cultivation ceases.

Montemor o Novo, a town containing 4000 inhabitants, on an eminence in a fruitful territory, westward of Evora, near the source of the Canha, which flows north-west to the mouth of the Tajo. The environs are granite hills. On the side towards Lisbon are many gardens, beyond which are woods of evergreen oaks. Between this place and Estremoz, lies Arrayolos, or Arraidos, an open town containing two large monasteries, and 2000 inhabitants.

Beia, formerly Bajilia and a place of strength, containing four parish churches, seven convents, two hospitals, and about 6000 inhabitants, on an elevated site surrounded by fertile but uncultivated fields, 13 leagues south of Evora, on the right hand of the Guadiana. Here are some fragments of a Roman aqueduct. Thence to Vidigueira there is a fertile and elevated plain, containing few villages, but many neat single houses on eminences.

Vidigueria, a market town containing about 2000 inhabitants, in a delightful territory five leagues north of Serpa. On one side, lies a fertile plain; and, on the other, are mountains and vallies adorned with orange gardens and vineyards. On the left hand of the road to Evora, appears the Sierra de Viana, consisting of low hills formerly noted for silver mines; and on the right is the Sierra de Ossa, a fertile and partially cultivated ridge; between which and Evora the little town of Evaromonte stands on an eminence.

Moura,

Moura, a small town, containing several parish churches and convents, north-east of Beia, on the left bank of the Guadiana. Its castle was demolished by the Spaniards.

Serpa, a small open town on an almost inaccessible eminence, east of Beia, below Moura, on the left bank of the Guadiana, in a fertile district diversified with plantations of fig and olive trees. It is a place of some trade; and in its vicinity are woods of oaks and fruitful corn-fields.—Thence southward to Mertola, there is an extensive desert, consisting of hills of sandstone and argillaceous slate. To the eastward are many ridges of hills which join the Spanish Sierra Morena. From Serpa northward to Evora and Montemor-o-Novo, a granite plain extends, forming the most fruitful district in Alentejo.

Ourique, a small town of 2000 inhabitants, 13 leagues south south-west of Beia, and five from the south border of the province. In an adjacent plain a memorable battle was fought between Alfonzo Henriquez and the Moors, A. D. 1139. This battle, described in the third canto of the Lusiad, was the commencement of the Portuguese monarchy. To the southward, there is a ridge of slate and sand-stone hills crowded together, and inclosing narrow, well cultivated, but thinly inhabited vallies.

Monchique, is a charming little town on the south declivity of a hill, among chesnut trees, gardens of oranges and lemons, &c. surrounded by deep romantic vallies. The houses are dispersed in a picturesque manner. Above the town is a delightful prospect of the whole coast of Algarvez. The adjacent rocks are entirely granite. There are warm baths a league south of the town. South and south-west to Cape St Vincent, the villages are stragglingly built on eminences, and the churches at a distance from them. Almodovar, an inconsiderable place near the south boundary of Alentejo. Sines, a small sea-port, opposite to Ilha de Pecigueira, 20 leagues north of Cape St Vincent.

Mertola,

Mertola, a small town inclosed with high walls, containing 3000 inhabitants, on the peak of a steep hill bathed by the Guadiana that flows throw a deep valley, seven leagues south of Serpa. On all hands the prospect is wild and dreary; and some of the hills near the town are of considerable height. Castroverde on the Corbos, Aljustrel, and Alvalade are little towns in the district of Ourique.

Villa Viciosa, a well-built and indifferently fortified town, containing a palace, a castle, 2 parish churches, and 3500 inhabitants, in a pleasant and fruitful territory, about 12 leagues eastward of Evora, at some distance from the Guadiana. In 1665 it held out a siege against the Spaniards.

Elvas, formerly Ielves, an indifferently built town and bishop's see, containing 3 parish churches, 7 convents, 2 hospitals, and 12500 inhabitants including the district, in an open and fruitful territory, 18 leagues N. E. of Evora, and 6 W. of Badajoz in Spain. It has a castle on an eminence, and is commanded by Fort la Lippe, a new and strong fortification on the top of a hill. In 1580 this town was taken by the Spaniards, who, in 1659, were defeated in its neighbourhood by the Portuguese. Here is a remarkable aqueduct, supported in some places by three arches one over the other. The streets are narrow, irregular, and dirty. At some distance from the town the country is bleak and barren.

Olivenza, a town with a strong fortress, containing 5000 inhabitants, in a fine plain south of Elvas and the Guadiana. It was taken by the Spaniards in 1577.

Campo Major, a town and modern fortification, containing 5300 inhabitants, in a pleasant plain, a few leagues north of Elvas, near the eastern border of the province.

Aronches, an inconsiderable but fortified place, in a hilly country, 5 leagues north of Elvas, at the conflux of the Alegretta and Caya.

Portalegre, Portus Alacer, a town and bishop's see, containing a cathedral, 4 parish churches, 2 hospitals, 5 convents, and upwards of 5000 inhabitants, about 18 leagues N. N. E. of Evora, in the N. E. corner

corner of the province. It is fortified with a wall and 12 old towers, but is commanded by a neighbouring hill.

Castello de Vide, a town on a hill, containing 3 parish churches, and upwards of 5000 inhabitants, 4 leagues northward of Portalegre.

Crato, a little walled town, and the principal place belonging to the priory of the order of Malta, 5 leagues west of Portalegre. There are many other small burghs in this province, which merit no description.

6. ALGARVEZ.

Algarvez, a province which has the title of a kingdom, extends from Cape Vincent to 37° 25′ north latitude, and to 7° 25′ west longitude; bounded on the north by Alentejo, on the east by Andalousia, on the south and west by the Atlantic Ocean; being 70--80 miles from west to east, and 23--30 in breadth; containing 3 jurisdictions, 67 parishes, 4 burghs, 12 market towns, and 93,000 inhabitants. This province is separated from Alentejo by a barren ridge of hills, consisting of sand-stone and an argillaceous slate, which extends from the Cape eastward to the Guadiana. There is another ridge of lime-stone hills, low but steep, and divided from the former by narrow vallies. This ridge is covered with loose stones, and terminates at Tavira. Between it and the sea there is a narrow strip of cultivated land, on which most of the towns and villages are situate. Towards the Cape the hills grow flatter, and the promontory itself is a bare and rugged tract of lime-stone. The rock, towards the sea, is very fractured, and about 50--80 feet in height. Ships can approach very near this rock. At a small distance Admiral Jervis defeated the Spanish fleet, A. D. 1797, for which service he was created Earl St Vincent. This cape is 20 leagues west of Cape St Maria, and 56 N. N. W. of Cape Spartel in Africa. On a rock separated from the cape by a creek, there is a small fort. The level part of the province is fertile, abounding in wine, oil, and all kinds of fruit, but little grain. The common people live principally on fish, and are very poor.

Cities, &c.—Lagos, a town containing upwards of 600 houses near the ruins of the ancient Lacobriga, on the west side of a bay of the south coast, navigable for the largest ships, about 5 leagues east of Cape Vincent, and 12 west of Faro. The town is surrounded by an old wall, without which there is a suburb. The castle of Penhao commands the bay, which, when the wind is north and west, affords excellent anchorage. There is a harbour where small vessels can enter, and an arm of the sea navigable for boats extends inland. The south coast, throughout the whole of Algarvez, is flat and sandy, whereas the west coast is more or less rocky. The tract between the hills and the south coast is covered with corn-fields, gardens, and fruit-trees.

Villa Nova, a small town, built A. D. 1463, to the eastward of Lagos, at the mouth of a rivulet which forms a secure harbour with a dangerous entrance, defended by two forts. The environs are cultivated, and shaded with olive and fig-trees; but the inland tract consists of uncultivated lime-stone hills. The road to Lagoa lies across a flat, agreeable, well-cultivated district.

Lagoa, a market-town, in a sandy soil, shaded by pines, on the border of a small lake, 2 leagues from Villa Nova. Thence to Loule, 6 leagues, the road at one time traverses flat cultivated tracts, and at another, stony lime-stone hills, without any traces of cultivation.

Silves, a town containing about 2000 inhabitants, founded B. C. 450, on a cognominal rivulet, 3 leagues N. N. W. of Albufeira, and 12 N. E. of Cape Vincent. There are several considerable places in its district.

Albufeira, or Abulferia, an inconsiderable town to the eastward of Villa Nova, at the bottom of a small bay.

Tavira, a neat, walled, sea-port town, containing 2 parish churches, and 4700 inhabitants, above the mouth of the Gilaon, which forms a harbour defended by two forts and a bar at the entrance, 5 leagues east of Faro. The adjacent territory is one of the most delightful tracts in Portugal;

Portugal; enclosed by limestone hills shaded with trees, it is covered with gardens, orchards, and corn-fields; but between the town and the sea there are many salt marshes.

Loule, a small town of about 1600 houses, environed with an old wall, and defended by a castle, pleasantly situate in a level tract, east of Albufeira in the road to Tavira. Of the lime-stone hills, by which the valley is surrounded, the Cabeça de Camara, S. W. of the town, is one of the highest.

Faro, an open, regularly built, trading town, containing two parish churches, four convents, and 5000 inhabitants, at the extremity of a small bay, in a level and sandy territory, two leagues from Loule, and defended by a small citadel. The harbour is a league and a half below the town. Another arm of the river, or of the sea, forms an island on which is the sandy cape of Santa Maria, very near the land. The tract between the town and the sea is marshy; on the opposite side it is flat and sandy; and at a distance appear the steep hills of San Miguel. The road to Tavira, along the coast, is uncommonly pleasant. Its environs produce good wine and fruits.

Castro-Marino, a little mean town in the south-east corner of the province, near the mouth of the Guadiana, opposite to Ayamonte. This town, composed of small and indifferently built houses, surrounds a hill, on which stands a ruinous castle, near the chain of hills that divides Algarvez from Alentejo. Among those hills, cultivated spots are interspersed.

Villa-real, a small, regularly built, and thinly inhabited town, without trade and manufactures, in a sandy and barren tract, at the mouth of the Guadiana, four leagues eastward of Tavira. The entrance of the harbour is broad and shallow.

Alcoutin, a small town defended by a fort, about 20 miles from the sea-coast, in an island formed by the river Guadiana, opposite to St Lucar in Andalusia. It contains about 1000 inhabitants. Several small islands

lie on the south coast of Algarvez; and the inland districts are noted for hot baths and mineral springs.

ISLANDS BELONGING TO THE KINGDOM OF PORTUGAL.

1. THE Madeira islands are three in number, viz. Puerto Santo, Madeira, and Isla Deserta.

Puerto Santo, an island in the Atlantic Ocean, was discovered by John Gonsalvez Zarco, A. D. 1412, or 1418, in 33° 20′ N. latitude and 16° 0′ W. longitude from Greenwich. About 5 leagues in length and three in breadth, it produces grain sufficient for the inhabitants, but it is infested by pirates. There is no proper harbour, but good mooring in the road on the south-west coast, opposite to the town.

Madeira, an island first discovered by Robert Machin, A. D. 1344, and afterwards by Gonsalvez Zarco in 1419, consists of one continued hill of great height, whose sides are covered with plantations of vines, and watered by springs and rivulets. It lies in 32° 40′ N. latitude, and 16° 56′ W. longitude, being 12 or 13 leagues from west to east, and 5 or 6 broad. The rich but indifferently cultivated soil yields abundance of fruits, and is famous for its wine, more than 10,000 pipes of which are annually exported by the English. It contains 39 parishes, a college, several monasteries, hermitages, and hospitals, and about 60,000 inhabitants. *Funchiale*, or Funchal, the capital, so called from Funcho or Fennel, with which its site was formerly covered, is an indifferently built, populous town, with narrow, ill paved, dirty streets, conveniently situate in the form of an amphitheatre on the south coast, at the bottom of a spacious bay, defended by a wall and several batteries, with an old castle on an insulated black rock at a small distance from the shore. On a neighbouring eminence above the town, there is another fort, called St John's Castle. The hills beyond the town are covered with vineyards, inclosures, plantations, and groves, interspersed with villas and several churches. There are two other towns, viz. Manchio and

and Moncerito, with a few villages. The summit of Pico Ruivo, the highest part of the island, is 5100 feet above the level of the sea.

Isla Deserta is a barren rock, producing orchilla weed only, about 6 leagues eastward of Madeira. The survey of these islands will perhaps be resumed in a subsequent part of this work.

11. The *Azores*, or *Terceira Islands*, lie in the Atlantic, almost equidistant from Europe, Africa, and America, between 36° 40′ and 40° N. latitude, and between 24° 40′ and 31° 40′ W. longitude. They were first discovered by a Flemish merchant in 1439, and afterwards in 1447 by the Portuguese. They enjoy a salubrious air, and are free from venomous animals, but are subject to dreadful earthquakes; yet they produce wheat, wine, fruits, and abundance of wood.

The names and situations of the most noted of those islands are as follows:

1. *St Maria*, an island 5 leagues in length and 3 in breadth, containing 5000 inhabitants. Its principal town, a place of little note, is situate in 36° 56′ 40″ N. latitude, and 25° 9′ 10″ W. longitude. The harbour is fortified, and the rest of the coast is guarded by high and steep rocks. The interior parts are fertile and tolerably cultivated.

2. *St Miguel*, or Michael, is a mountainous, indifferently cultivated, and populous island, 18—20 leagues in length, and 3—5 in breadth, in 37° 47′ N. latitude, and 25° 42′ W. longitude, containing 5 small towns, 22 villages, 1300 ecclesiastics, and 50,000 inhabitants. It appears to be entirely volcanic, but is one of the principal and most fertile of those islands. The eastern and western districts rise into lofty mountains, but the middle is low and interspersed with conic hills, all of which have recent marks of fire. There are craters in the tops of the mountains, and boiling springs in several parts of the island. Near the west end of it is a deep valley, containing a lake, surrounded with abrupt mountains composed of loose pumice stone. *Punta del Guada*, the capital, is a regular and tolerably built town, containing 3 churches, several convents, and

and about 10,000 inhabitants, in a level and fertile plain on the south side of the island. Vessels anchor in an open road. *Villa Franca*, a more ancient but less considerable town, contains 3000 inhabitants, with a fortified port, 6 leagues eastward of the capital. About half a mile from the shore, lies Ilhao, a little island hollow in the middle, containing a fine bason, where 50 sail might anchor in security; but at present it is shallow, considerable quantities of earth being washed from the mountains. Four leagues N. E. of Villa Franca, there is a deep valley called Furnas, 5 leagues in circuit, producing Indian corn, wheat, flax, &c. surrounded by high mountains, whose declivities are covered with evergreens. There are many hot fountains in the valley and on the sides of the hills; and native sulphur is found in every chink. *Ribeira Grande*, a town of some note, contains as many inhabitants as the capital, on a bay at the foot of a mountain, near the middle of the north coast. *Fayal*, a little town near the eastern extremity of the island, defended by several forts, and environed with gardens which rise in the form of an amphitheatre.

3. *Terceira*, is a mountainous but fertile and agreeable island, yielding corn, wine, and fruits, environed by steep rocks, 10 leagues in length and 5 in breadth, lying in 38° 39′ N. latitude, and 27° 12′ 42″ W. longitude from Greenwich. *Angra*, the capital, and residence of a governor and bishop, is a tolerably built walled town, defended by a castle on the south coast, containing a cathedral, 5 or 6 churches, 2 hospitals, 8 convents, and 9000 inhabitants. Here the royal magazines for anchors, cables, and other naval stores are kept. Its harbour, where ships may safely ride during summer, lies between two capes in the form of a crescent, and is defended by two batteries. *Praya*, a small town in a level tract, on the east coast. *Sebastian*, an old and inconsiderable town, with several forts, half a league from the sea. Between Terceira and St Miguel, is a little island produced by an earthquake in 1720.

4.

4. *Jorga*, or St George, is a small island six leagues long and two broad, between Graciosa and Pico, in 27° 50′ W. longitude, and 38° 31′ N. latitude. The northern part of it is elevated and rocky; but the rest is tolerably level and cultivated. On the south coast there is a harbour for small vessels. Vela de Velas, the capital, is an inconsiderable town; and the whole inhabitants of the island do not exceed 3000.

5. *Graciosa*, a pleasant and fertile island, in the form of an heart, four leagues in length and three in breadth, lies in 39° 30′ N. latitude, and 27° 58′ W. longitude; yielding grain and fruits, and containing 3500 inhabitants. Santa Cruz is a small town with a harbour, defended by a fort on the north-east; and Plaia on a bay of the south coast. The northern part of the island is the most fertile.

6. *Fayal*, a fertile and well watered island, shaded with trees and abounding in fruits, lies in 38° 31′ N. latitude, and 28° 40′ W. longitude, being 10 leagues in length, and 3—6 in breadth, containing about 5000 inhabitants. Towards the centre it rises into a mountain, which was formerly a volcano. Villa de Horta, a small town defended by two forts, is pleasantly situated at the foot of a mountain, and bottom of a semi-circular bay on the west coast. The principal product of this island is Indian corn.

7. *Pico*, so called from a high pointed mountain in the south-west corner, is an island 12 leagues in length and 4—9 in breadth, lying in 38° 27′ N. latitude, and 28° 28′ W. longitude. Separated from Jorga and Fayal by two narrow channels, the former being opposite to the north, and the latter to the north-west point. It contains several inconsiderable towns, and 2800 inhabitants, has a tolerable harbour on the south coast, and is famous for its wine, cyder, and an excellent wood called teixos. Its volcano was extinguished A. D. 1683.

8. *Flores* is a small island, five by two leagues, abounding in wood, fine flowers, and fruits; containing three roads or harbours, two burghs,

a few hamlets, and a considerable number of inhabitants. The north part of it lies in 39° 26′ N. latitude, and 31° 11′ W. longitude.

9. *Corvo*, an island about four leagues in circuit, is divided from Flores by a narrow strait. It has two small harbours, and contains 500 inhabitants. Some geographers have reckoned the longitudes of places from this island, because the magnetic needle here points directly north without any variation. It lies in 43° 38′ N. latitude, and 31° 50′ W. longitude from Greenwich.

In Asia, the Portuguese are in possession of Goa, together with several settlements on the coast of Coromandel, and Macao in China.

In Africa they are masters of Maragan in Morocco; and, beside the islands of Porto Santo, Madeira, and Cape Verd, they occupy some forts on the river Gambia in Guinea; the islands Fernan-Po, St Thomas, Annobon, and Loando in Congo, where they have many settlements; and, on the eastern coast, Mosambique, with several forts.

In South America they possess Brazil, and the coast eastward of Paraguay, with the borders of the river Amazon.

A particular account of those settlements will be found in the description of the countries to which they are attached.

SPAIN.

SPAIN.

Spain is bounded on the north by the Bay of Biscay and the Pyrenean Mountains; on the east by the Mediterranean; on the south by the Strait of Gibraltar; and on the west by Portugal; lying between 36° and 43° 45′ N. latitude, and between 7° 40′ W. and 3° 20′ E. longitude from Greenwich, being 550 miles from north to south, viz. from Cape Penas to Gibraltar, and near either extremity, viz. under the parallels of $37\frac{1}{2}°$ and 43° latitude, its extent from east to west being 380, but under the parallel of 42°, 500 miles.

Climate.—Situate near the middle of the temperate zone, and diversified with lofty ridges of hills, Spain is a healthy and delightful country. The air, in general, is pure and serene; and, in the time of the Moors, the climate appears to have been signally propitious; but the draining and cultivating of the lands having been, since that period, greatly neglected, stagnant marshes have multiplied in the low grounds, to corrupt the air, and to generate malignant fevers and other infectious diseases. Copious rains fall in spring and autumn, but the remainder of the year is mild and temperate; for the sultry heat of summer is mitigated in the inland parts of the country by fresh gales which descend from the mountains, and in the southern provinces by gentle breezes from the sea.

Surface and Soil.—The surface is an agreeable intermixture of mountains, vallies, hills, and plains. The soil, in general, is light; some extensive tracts are dry and barren; others are rocky, abounding in aromatic herbs; but most of the provinces are fertile, and, if properly improved, would yield a perpetual succession of crops. Notwithstanding, as labour and culture are reckoned derogatory from the Spanish character, a sufficient quantity of grain for the support of the inhabitants is not raised, though societies for the encouragement of agriculture have been established in different parts of the kingdom. The principal products are, wine, delicious fruits, silk, oil, honey, and wax. A considerable proportion of the mountains and vallies is pastured by immense flocks of sheep, whose wool is extremely fine and valuable. Estremadura is noted for its excellent pastures; and the wool in Old Castile is reputed the finest in the kingdom. In Catalonia the hills are covered with forest and fruit trees. Valencia is celebrated for its silk and for the exquisite flavour of its melons. Murcia abounds in mulberry-trees; and the southern provinces yield the most delicious wines and fruits. Upon the whole, it has been observed of Spain, that few countries owe more to nature, and less to industry.

Mountains and Rivers have been already described. (See Hispania).

Mines and Minerals.—Andalusia was anciently productive of precious metals, viz. of gold, silver, brass, and iron; and in the sands of the Tagus and other rivers, gold-dust was found. Silver mines were wrought at Carthagena, and at the sources of the Bætis. At present, the only silver mines are those of Guadalcanal in Sierra Morena, though rich veins of this metal exist in many places. Galicia, once famous for gold and silver, now yields tin and marble. In the mines of Guadalcanal and of Almada, there is abundance of quick-silver, which is sent to America for the purpose of amalgamation. Iron mines are still wrought with great skill in Aragon and other provinces: the gun-barrels and sword-blades of Toledo have been long celebrated throughout Europe.

Calamine

Calamine is found near Alcavas; antimony in Sierra Morena; copper on the confines of Portugal; cobalt in the Pyrenees; silver, lead, coal, and rock-salt in Catalonia; salt-pits at Antiquera and in Andalousia; load-stone, cornelian, agate, with other precious and useful stones, in many parts of the kingdom. But most of the mines have disappeared, and the inhabitants are not at the trouble of searching for them, as immense quantities of the valuable metals are imported from America.

Mineral-waters.—The hot springs of Rivera de Abajo, near Oviedo, resemble those of Bath. There are warm baths at Buzot near Alicant, and at Leon. The noted salutiferous springs of Granada are impregnated with metals and minerals.

Population.—In the time of the Goths and Moors, Spain was more populous than at present. The number of its inhabitants does not amount to 11 millions. Various causes have been assigned for this defect of population. The most probable are, the pestilential fevers and epidemical diseases, which carried off one-third of the inhabitants in the year 1347, and have produced great mortality during the two last centuries; almost incessant struggles for dominion, from 714 till the conquest of Granada, and union of the two crowns of Castile and Aragon; the expulsion of about 400,000 Jews by Ferdinand and Isabella, and of 900,000 Moors, A. D. 1610; the discovery of South America in 1493, which has gradually drained the country of its inhabitants and its industry; the calamities of war, during two centuries, from the accession of the Emperor Charles V.; the form of government, and national prejudices, which discourage foreigners from settling in the kingdom, and are inimical to manufactures, commerce, and agriculture; the debauchery that prevails among all ranks; the great number of convents; the celibacy of the clergy; religious oppression; numerous festivals, which lessen the number of working days, and so abridge the labour of the people; the influx of gold and silver from America, which, instead of promoting industry, has produced indolence, weakness, poverty, and de-

population. According to a calculation in the year 1776, the cities, towns, villages, and hamlets amounted to 84459; public edifices and temples 30,496; inhabitants of all ages and sexes 8,256,903. But since that period the population has considerably increased.

Manners, &c.—The natives of almost every province have some distinguishing peculiarity in their dress, manners, and pursuits. Before the accession of the house of Bourbon to the throne, the usual dress of a Spanish nobleman consisted of a slouched hat, a long black or brown cloak, short jerkin, and strait breeches, with a long Toledo sword; but French dresses are now introduced at Court. The higher classes wear their hats under their arm. The vulgar wrap themselves up to the eyes in a brown cloak, called a Capa, that reaches to the ground; and conceal their hair beneath a cotton cape and a broad hat called a Sombrero. When a lady walks abroad, her head and upper part of her body are covered with a mantilla, that is, a white or black veil, so that it is impossible she should be known. At home, the dress is a jacket and a petticoat of silk or cotton. The hair is generally of a fine black, and powder is rare.

In romance the ladies are celebrated for beauty, and some of them deserve to be so; yet beauty is not their general character. They are of a slender make, but with great art they supply the defects of nature. By an indiscriminate use of paint, they disfigure their complexion, and shrivel their skin. They are possessed of an uncommon share of vivacity, and more susceptible of friendship than the French; but they are destitute of the polish received by education. Grossly ignorant, they are slaves of the most absurd prejudices. Enthusiasts in religion, all their sensations are violent; and, strangers to the art of self-government, they are whimsical, pettish, irascible.

The good as well as bad qualities of the Spaniards have been greatly exaggerated. Several of their customs and habits, which seem ridiculous to foreigners, are gradually wearing out, and in process of time will

will no doubt be corrected. Pride, generosity, valour, fidelity, and an ardent love of their country, form the basis of their general character. An Old Castilian reckons himself the most important being in nature, and cannot endure the thought of a superior. But this pride inspires the nation with generous, humane, and virtuous sentiments, it being seldom found that a Spaniard is guilty of any thing mean, unless when he is under the influence of jealousy or revenge, which sometimes incites him to commit the basest and most criminal actions. Love of pomp, and excess of ceremony, are the genuine offspring of pride and self-respect. Reserve, and gravity of deportment may, in part, be attributed to the horrid tribunal of inquisition, by which the clergy keep all ranks in awe; but the power of this court has of late been greatly abridged by the interposition of the sovereign. The lower ranks are as mean, base, and rapacious, as those of any other country; and they share in all the bad qualities of their neighbours. The passion of jealousy, however, which was formerly productive of such dire effects, is considerably abated, so that females now appear in society without suspicion. The temperance of all ranks, and in particular their sobriety in eating and drinking, is remarkable. The higher classes at breakfast use chocolate, and seldom tea. Dinner generally consists of beef, veal, pork, mutton, and beans, boiled together. They are fond of garlic; and it is proverbial that olives, salled, and radishes are food for gentlemen. The men drink little wine, and the women use water, or chocolate. Both sexes sleep after dinner, and air themselves in the cool of the evening. Their repasts are composed of sweetmeats, biscuit, coffee, and fruit, which servants distribute to the company, who keep their seats, and have little conversation.

Dancing and cards are favourite amusements. Theatrical exhibitions are generally insipid or ridiculous bombast, low wit, absurdity and buffoonry. The combats of the Cavalleros, and bull fights, are almost peculiar to this country. On those occasions, young gentlemen were wont

to

to show their courage to their mistresses, and were honoured and rewarded according to their success. But these exhibitions are now conducted with greater economy and parsimony; and mercenary champions study, in the most secure and graceful manner, to destroy the devoted animal.

The chief defect in all ranks is an aversion from labour and industry. The higher orders bestow no attention on agriculture and commerce. They reside, for most part, at court, and in the metropolis, reckoning it beneath their dignity to live in villas on their estates, among their tenants. In their estimation, a labouring man quits the dignity of the Spanish character, and renders himself an object of contempt. Hence a listless indolence prevails. Thousands waste their time in total want of every incitement to action. Their intellectual powers lie dormant, and their views and exertions are confined within the narrow sphere of mere existence. The common people have no encouragement to industry; and must feel little concern for the welfare of a country, where a few overgrown families engross every thing valuable, and never think of the condition of their vassals. The indigent Spaniard does not bestir himself unless impelled by want, because he perceives no advantage can be derived from industry. A stranger to intemperance and excess, his scanty fare is easily procured; and under a climate so propitious, few cloaths are required. The hovel which he occupies, together with all its contents, has a mean, filthy, despicable appearance; and all that relates to him bears the impression of wretchedness and misery.

Inland Navigation.—There are several navigable rivers, but few canals of communication have been constructed to improve the internal part of the country. The canal of Aragon, when completed, will be highly beneficial to that province. Two canals, viz. that of Taustre and the Imperial Canal, both of which begin at Navarre, run in various windings through Aragon, by turns receding from or approaching the river Ebro, where at length they terminate. Beside the dykes, banks, slucies, and bridges necessary

cessary in the course of these canals, an aqueduct has been constructed in the valley of Riozalon, 710 fathoms in length and 17 feet thick at the base, in which the canal runs.

The canal of Castile, projected and begun in the last reign, has been almost abandoned. It was to commence at Segovia, sixteen leagues north of Madrid, to follow the course of the Eresma that falls into the Douro, and to be continued as far north as Reynosa, which is twenty leagues from St Ander, a sea-port. At Reynosa is the communication with the canal of Aragon that unites the Mediterranean to the Bay of Biscay. Above Palencia a branch goes westward through Rio-Seco and Benevento to Zemora, making the canal of Castile, in its whole extent, 140 leagues. Where it is completed, viz. between Reynosa and Rio-Seco, its width at top is 56 feet, at bottom 20, and 9 in depth.

In 1784, a canal was planned, which, from the foot of the mountains of Guadarama near the Escurial, should proceed southward to the Tagus, afterward to the Guadiana, and terminate at the Guadalquivir above Anduxar. Some other attempts to improve the inland navigation of the country have been unsuccessful.

Manufactures and Commerce.—Spain, blessed with a temperate climate, intersected by many navigable rivers, bordering upon two seas, and enriched by a vast influx of wealth from the West Indies, might be one of the most opulent and powerful countries in Europe; and yet the reverse is the case. Its population is not in proportion to its extent and fertility; its rank is not equal to its natural advantages; its manufacture and trade are inconsiderable. Tradesmen and merchants being held in contempt, a Spaniard disdains to stoop to laborious employments; and arts are checked by the royal monopolies, by the prejudices of the nobility, and the power of the ecclesiastics, which damps the genius and depress the spirit of the people. Some manufactures, however, are conducted with industry and skill. Broad cloth, silk, leather, barilla, wines, oils,

and

and fruits are exported. But the chief trade of Spain is with her American colonies; and this trade is carried on by register ships and galleons, which sail from Cadiz to Lima, and annually import gold, silver, and other commodities to the amount of about 13,000,000 pounds Sterling; yet little national advantage is derived from this trade, as the gold and silver imported are exchanged for the merchandise and commodities of foreign nations.

Religion.—The established religion is the Roman catholic of the most bigotted character; and no other sect is tolerated. The clergy are a numerous body, irrationally zealous in their opinions, and disgracefully lax in their morals. There are 8 archbishops, and 52 bishops; all of whom are nominated by the king, and confirmed by the Pope. The number of ecclesiastics of all denominations may be 180,000, and to these the people are slaves. In support of the church, the dreadful tribunal of the Inquisition was established in Spain, A. D. 1478; but the power of that formidable engine of superstitious vengeance has been considerably diminished by the interference of the state.

Literature.—The literature of Spain during the middle age was not inferior to that of any other country in Europe. Under the Moorish domination several men of genius and learning appeared. Abenzoar, Averroes, and Rhazes, distinguished themselves by their literary productions. In the thirteenth century, while Alphonzo the Wise cultivated and encourged the study of philosophy, Raymund Lully, a native of Majorca, applied with diligence to chemistry, medicine, and theology. His numerous treatises displayed much subtlety, but little solidity or judgement. In modern times, Mariana composed an excellent history of Spain; and Solis wrote an account of the conquest of Mexico. The historical productions of Garcillasso della Vega, Herrera, Oviedo, Salazar, and Sepulvedo, have considerable merit. Among the poets of some eminence, may be ranked Argensola Boscan, Garcilasso, Juan de Mera, Calderoni, Lopez de Vega, Quevedo, &c. Cervantes and Antonio de Guevara,

Guevara excel in romance. But the poems and fictions of Spanish authors, with a few exceptions, are more noted for fertility of invention and exuberance of fancy, than for elegance of sentiment and correctness of taste. Theological and philosophical subjects, few writers have dared to treat. There are upwards of 20 universities, or acadamies, in the kingdom, of which the most celebrated is that of Salamanca, which contains 24 colleges, established in the thirteenth century. In 1785, the number of students was computed at 1909. Little encouragement, however, is given to learning and to learned men. Titles and honours are sufficient for those in high rank; and inferiour classes derive no hopes, or expectations, from having more knowledge than their superiors. Improvement is checked by the bigotry of supersition, and by the influence of the clergy, who, being illiterate themselves, endeavour to suppress all scientific accomplishments among the laity, and to keep them in ignorance and subjection.

Government.—The form of government is an absolute monarchy. The crown is hereditary, and females are capable of succession. The heir apparent is styled Prince of the Asturias. The states consist of the clergy, the ancient nobility, and the deputies of the towns; but the convening of them has been long discontinued, no other assembly than that of the deputies having been thought necessary, the proper business of which is to settle taxes and imports. The most important affairs of state are discussed in a council, consisting of a president, three other counsellors, and a secretary of state, beside the two Secretarios de Estado and Del Despacho universal. The supreme royal council is the highest judicature, and is divided into four courts, or chambers. There are many other subordinate tribunals for the police, finances, and other branches of business. The government of Spanish America forms a system of itself, and is delegated to viceroys, and other officers, who, in their respective departments, are almost absolute. The nobility are divided into eight classes.

The principal order of knighthood is that of the golden fleece, instituted A. D. 1430, by Duke Philip the Good. The order of St Jago di Compostella was instituted by Ferdinand II. A. D. 1175; and its badge is a red uniform cross in twelve departments. The order of Calatrava, instituted by Sancho III. of Castile, has for its badge a red cross in five departments. The order of Alcantara was instituted by Ferdinand II., and its badge is a lilly placed crosswise. The order of Montesa, instituted A. D. 1317 by James III. King of Aragon, is composed of nineteen commanderies.

Revenue.—The public revenue arises from a tax on imports and exports; from the chief objects of internal consumption; from the monopolies of the crown; from landed estates; from tythes of church and abbey lands; from the sale of indulgences; and from the West India trade. The whole revenue from those sources has been calculated at five millions and a half Sterling money. M. Jordan computes it to be about seven million three hundred thousand pounds; but this statement is perhaps exaggerated.

Military strength.—In time of peace the land forces seldom exceed 50,000 ill-disciplined troops; but in war, the army might be augmented to a formidable force. In the year 1778, the Spanish fleet consisted of 148 vessels of all descriptions, and of these upwards of 60 were ships of the line. In 1788 the number of ships of the line amounted to 68, and that of large frigates to 47. But, in the late war with Great Britain, the marine of Spain was greatly reduced; and at present her fleets are confined within their respective harbours.

History.—When the dominions of the Moors were split into many independent kingdoms, those of Castile and Aragon were soon distinguished. In the year 1474, a perpetual union betwixt these two kingdoms was affected by the marriage of Ferdinand, hereditary prince of Aragon, with Isabella heiress of Castile. The conquest of Granada, A. D. 1492, put an end to the dominion of the Moors in Spain;

170,000

170,000 families of those industrious people and of the Jews were expelled, which almost depopulated the kingdom of artists, labourers, and manufacturers. The advantages derived from the union of the several provinces into one monarchy, were overbalanced by the expulsion of the Moors, the establishment of the tribunal of inquisition, A. D. 1480, and the discovery of South America.

Charles V. succeeded to the throne in the right of his mother, A. D. 1516. Spain, the two Sicilies, the low countries, and Franche Comte composed his dominions. In 1519 he was elected emperor of Germany; in 1522 Cortes completed the conquest of Mexico, and Peru soon after was added to the Spanish territories. War was declared between France and Germany; and Francis was defeated and made prisoner, A. D. 1522, at the battle of Pavia. In 1541, Charles, against the advice of Doria, undertook the siege of Algier, which he was constrained to abandon. Exhausted by the fatigues and cares of government, this brave and enterprising monarch, A. D. 1556, resigned the crown of Spain to his son Philip, with all the territories depending upon it, both in the old and new world.

Having declared war against France, Philip II. went into Flanders, where his troops, under the command of the Prince of Savoy, gained the battle of St Quintin, A. D. 1557. In memory of this victory the Escurial was built. He appointed his sister, the Dutchess of Parma, to be governess of the low countries; and, in 1560, he removed the seat of the court from Toledo to Madrid. Persecution of the protestants began in the low countries, A. D. 1565, which occasioned an open revolt; and those provinces became the theatre of a long and bloody war. The Duke of Alva was sent to reduce them; but his pride and cruelty widened the breach. In the year 1580 Philip usurped the kingdom of Portugal, and was master of both the Indies. The inhabitants of the low countries, A. D. 1581, by a public edict renounced allegiance to Philip; nor was he more fortunate in the war he undertook against the English;

for the fleet he had fitted out to invade Britain, A. D. 1588, was dispersed, and almost destroyed by a tempest.

Philip III., a weak prince, ascended the throne, A. D. 1598, and carried on the war against the United Provinces. Ostend was taken by the Spaniards in 1604, after a siege of three years. In 1609 the Moors were banished out of Spain, and entire provinces were thereby depopulated.

In the year 1621 the reign of Philip IV. commenced. The truce, which had been made with Holland for 12 years being expired, war was renewed and carried on with vigour by both the contending powers, until the year 1648, when peace was concluded at Munster, by which the states of Holland were declared free and independent. The power of the Spaniards now began to decline. In 1640 the Portuguese threw off the Spanish yoke, and never could be reduced; so that Portugal remains to this day a separate kingdom governed by its own kings. Philip also prosecuted an unsuccessful war against the French, which was terminated by the Pyrenæan treaty, in 1659.

Charles II., a feeble and unfortunate prince, began his reign, A. D. 1665, aged 4 years. In 1668 peace was concluded between Spain and Portugal, and the latter was declared to be an independent kingdom. In a war with France, Charles lost some of the richest and best fortified towns in Flanders. The peace of Nimeguen was signed, A. D. 1678. This prince died, A. D. 1700, and with him, in the male line, that branch of the house of Austria ended. He was succeeded by Philip V. Duke of Anjou, and grandson to Louis XIV. To dethrone him, a league was formed A. D. 1701, by England, Holland, and the empire, which was acceded to by Savoy, Portugal, and Prussia. After a tedious and sanguinary war, differences were composed by the treaty of Utrecht, A. D. 1713; by that of Rastadt, 1714; and by a treaty between Spain and Portugal, 1715, which terminated the famous congress of Utrecht. A Spanish fleet, A. D. 1715, took possession of the island of Sardinia; and

and the year following the Spaniards invaded Sicily; but their fleet was defeated by Admiral Byng. Sardinia, A. D. 1720, was resigned to the Duke of Savoy, and Sicily to the emperor. By the treaty of Sevile, A. D. 1729, the dutchies of Tuscany, Parma, and Placentia, were guaranteed to Spain. In 1731, Philip invaded Naples, and procured that kingdom for his son Don Carlos. War was declared between Spain and the empire, A. D. 1733; and in December a fire consumed the royal palace at Madrid, with all the archives relating to the Indies. Admiral Vernon took Portobello in 1739; and in vain attempted the reduction of Carthagena. After a long and turbulent reign Philip died, A. D. 1746.

Ferdinand VI., a mild, prudent, and beneficent prince, reformed abuses in the administration of justice, and management of the finances. He revived commerce, established manufactures, and promoted the prosperity of his kingdom. In April A. D. 1755, Quito, in South America, was destroyed by an earthquake.

Charles III. succeeded Ferdinand his brother in 1759. The famous family compact was concluded at Versailles, A. D. 1761, between the four kings of the house of Bourbon. The English, alarmed by the naval preparations of Spain, declared war in 1762, and took Havannah in the island of Cuba, and Manilla in the East Indies. Notwithstanding this success, peace was hastily concluded at Fontainbleau, in November, by which Havannah was restored. In 1767 the Jesuits were expelled from Spain. An unsuccessful expedition was concerted against Algiers, A. D. 1775. In the war between Great Britain and her American colonies, Spain, by the intrigues of the French court, was prevailed with to take up arms in support of the latter. At the conclusion of that calamitous war, Great Britain, in a treaty with Spain, ceded to this power East Florida, West Florida, and the island of Minorca. Charles, A. D. 1788, was succeeded by his second son Charles Anthony Prince of Asturias, the eldest having been declared incapable of inheriting the crown.

Spain,

Spain, in the time of Julius Cæsar, is said to have contained 50 millions inhabitants, and under the Goths half that number. In 1764, by an enumeration of the inhabitants of this kingdom, including those of the Canaries, Majorca, Oran, and Ceuta, it appeared there were 21221 towns and villages, 108 cathedrals, 2052 convents of men, and 1028 of women, 312 colleges, 2008 hospitals, and 6,350,196 inhabitants fit to receive the sacraments. According to later accounts, this kingdom contains 148,448 square miles, 18,972 parishes, 145 cities, 4572 towns, 12,732 villages, 8[illegible] convents, and 11,000,000 inhabitants.

The main land is divided into fourteen provinces, viz.

1. Asturias. 2. Biscay. 3. Gallicia. 4. Leon. 5. Estremadura. 6. Andalousia. 7. Granada. 8. Murcia. 9. Valencia. 10. New Castile. 11. Old Castile. 12. Navarre. 13. Aragon. 14. Catalonia.

I. ASTURIAS.

Asturias, among the mountains of which the remains of the Goths found a safe retreat after the decisive battle of Xeres, is bounded on the north by the ocean, on the east by Biscay, on the south by Old Castile and Leon, on the west by Gallicia; lying in 43° 10′ north latitude; being 80-120 miles from west to east, and 50-65 in breadth; containing 150,000 inhabitants. This province, for most part, is rugged and mountainous, thinly inhabited, and indifferently cultivated. Among the Verdoyonta mountains are frightful hollows, and some plains. The whole country abounds in springs and rivulets. The most remarkable ridge of hills extends along the confines of Leon, where lies the pass of Arbas. In this defile is one of the oldest churches of the Goths. Some tracts are unfavourable to vegetation; but the province, in general, produces a moderate quantity of grain, with abundance of fruit and excellent wine. It is divided into two unequal parts, the largest of which is Asturias-Oviedo, and the least Asturias-Santillana.

Rivers.

Rivers.—The Eu forms the common boundary of Asturias and Gallicia. The source of the Asta is in the ridge of mountains which separates Asturias from the district of Cervantes; and thence it flows north-east to a gulf of the sea, into which it falls near Villa Viciosa.

Cities, &c.—Oviedo, the capital, anciently the residence of Pelayo, a Gothic prince, the seat of a council in 901, and a bishop's see, was founded in the reign of Froila A. D. 761. Situate in a plain, at the conflux of two small streams, indifferently built, and defended by a castle, it contains an university established in 1580, four parish churches, eight chapels, six convents, and 7000 inhabitants. Water is conveyed into the own by a naqueduct of 40 arches built of free-stone. A league thence are frequented hot baths.

Gijon, anciently Gegio, an inconsiderable walled maritime town, with an old castle, eight or nine leagues northward of Oviedo. This insecure port, constructed and maintained at great expence, is resorted to by the English for filberts and chesnuts.

Villa Viciosa, a place of some trade, seven leagues south-east of Gijon, between the mouths of the Asta and Roune, two small rivers, at the bottom of a deep but narrow bay, with a good harbour. As the eastern side of the bay is foul, ships may enter in by the west point of the land, sail up to the town, and anchor in shoal water.

Cangas de Onis, divided into two little towns by the Sella, lies several leagues south-east of Villa Viciosa, at some distance from the sea-coast, in a valley that yields abundance of fruits.

St Vincent de la Barquera is a little town in a hilly territory, on the border of a cognominal rivulet, near the sea-coast, east north-east of Cangas de Onis.

Santillana, by Arabs called Schantarin, an inconsiderable sea-port, in a pleasant valley, watered by a rivulet, a few leagues from the eastern extremity of the province.

St Ander, Portus St Emederi, a small tolerably built sea-port, containing 4000 inhabitants, with an excellent and fortified harbour of difficult access, at the foot of a hill, in lower Montana, on the confines of Biscay. Thence to the southward 15 leagues, i. e. three leagues beyond the town of Reynosa, there is a succession of high craggy mountains.

Castropol, a small sea-port near a cape of the same name, at the mouth of a river, and western extremity of the province, 13 leagues north-west of Oviedo.

Aviles, the birth-place of Antonio Florez, is an inconsiderable but well built place, containing 2 parish churches, and 800 families, 11 leagues north-east of Castropol, near the bottom of a small bay, on the bank of a rivulet, between a cognominal cape and that of Penas. It is a tide haven, into which ships may enter at half flood; and there is also good anchorage before it, in 6 or 7 fathoms. The adjacent hills are fertile almost to their summits.

Penaflor, southward of Oviedo, *Potes*, on the bank of the Deva, and other small inland towns, merit no description.

2. BISCAY.

Biscay, anciently Cantabria, in the middle age Viscaia, extends 46 leagues along the sea-coast, from Asturias to Navarre, and on the south is bounded by Old Castile; lying in 43° north latitude; being 10-17-25 leagues from north to south. It is diversified with mountains containing mines of iron and lead, tracts of light and stony soil, and fertile vallies yielding some grain and excellent fruits. Commodiously situate on the Gulf of Gascony, its trade is flourishing. Its inhabitants are reckoned the best soldiers and sailors in Spain; and they have a particular kind of language, which has no affinity with any other in Europe. It is commonly subdivided into Biscay Proper, Guipuscoa, Quatro Villas, and Alava,

Alàva, containing 4000 square miles, and 200,000 inhabitants. The Biscayers have the same love of their country, and the same hatred to innovation with the Spaniards; but they have more fire and vivacity. The reserve and pride of the women counteract their amiable qualities.

The lordship of Biscay is composed of mountains, hills, intervening vallies and plains. From the clefts of the rocks, rivulets and torrents descend with impetuosity, which, in the rainy season, inundate the lower districts. A considerable proportion of the country is wooded, and of fruit-trees there is great abundance and variety. The interior part of the lordship is divided into small farms, or possessions, each of which has a house and garden occupied by its proprietor. On the hills are many castles, or square towers, the ancient seats of noble families.

1. The capital of Biscay Proper is *Bilboa*, a tolerably built trading place, containing 800 houses pleasantly situate, two leagues from the sea-coast, in a moist and fertile territory, surrounded by mountains, 20 leagues west of St Sebastian, on the bank of a river. Its harbour is commodious and frequented. Immediately below the town the river is narrow and interrupted by a sand-bank. Inland among the mountains iron mines abound, and the scenery is romantic and delightful.

Vermejo, a small walled sea-port, containing 2000 inhabitants, N. N. E. of Bilboa, near Cape Machicaco.

Durango, a small, populous, inland town, about 5 leagues east of Bilboa, in a deep valley, among high mountains. In this place considerable quantities of hardware and other iron works are manufactured.

Orduna, a small inland well-built town, containing two parishes, on a pleasant declivity, environed by mountains, six leagues south south-west of Bilboa.

2. The principal town in Quatro Villas is *Laredo*, situate on a rising ground near the sea-shore, between Bilboa and St Ander, in the N. W. corner of Biscay. It has a commodious harbour, where Charles V. land-

ed, A. D. 1556, after he had resigned his dominions to Philip. In the midst of the Sound, opposite to the hill of St Anthony, lies a range of rocks under water, on either side of which a ship may sail in. There is a road for small vessels within the rocks, a little before the haven; but large ships lie further off in 6 or 7 fathoms.

Castro de Urdiales, a small walled town, with a castle, south-west of Laredo.

3. *Guipuscoa*, a district between Biscay Proper and Navarre, is about 13 leagues from north to south, and 10 from west to east. Near the sea-coast it is separated from France by the rivulet Bidassoa, or Vidasso. The south part of this territory is mountainous, and thence the Deva and Orio, two small streams, descend, run northward, and lose themselves in the ocean.

St Sebastian is a tolerably built, walled, trading town, containing 8000 inhabitants, with a fortified and secure harbour, at the mouth of a small river, and foot of a hill on which the citadel stands, and whence is a distant prospect of the Pyrenean Mountains. In the year 1719 the French made themselves masters of this town. Its environs abound in iron-mines. The road from St Sebastian to Vittoria lies across St Adrian, one of the most elevated of the Pyrenees.

Port-Passage, to the east of St Sebastian, has a good harbour, with a narrow entrance, sheltered from all winds. At the west side of the mouth of the haven is a round rock, and on the east side is a battery. The town lies within the haven, and before it ships may anchor in 7 fathoms.

Fuenarabia, a neat town, with a harbour fortified by nature and art, near the mouth of the Vidasso, on the confines of France. This town was besieged, but not taken, by the Prince of Condé, A. D. 1638. The adjacent territory is moist, but salubrious.

Pheasant Island, also called the Island of Conference, is famous on account of the Pyrenean treaty concluded there, A. D. 1659.

The

The high road southward to Madrid, passes between lime-stone mountains crowded together, whose sides are adorned with detached chesnut trees and low oaks. The vallies are well cultivated. Villages, seats, churches, and a well cultivated soil enliven the prospect.

Iran, a small, ill built place, on the border of France, among the Pyrenees. The road that leads from Spain to France, is there narrow and bounded by precipices.

Tolosa, a small, well built, walled, populous town, in a cultivated and delightful valley between two mountains, 5 leagues inland from St Sebastian, at the confluence of two rivers. Near this place, the Moors were defeated with great slaughter, A. D. 1212, by the kings of Castile, Aragon, and Navarre.

Mondragon, a little well built town, on a hill, near the Deva, famous for its medicinal springs and excellent cyder, 8 leagues from the sea-coast. About a league from Mondragon, there is a noted iron mine.

Placentia, in a valley watered by the Deva, below Mondragon, and noted for its manufacture of fire arms. It contains upwards of 1000 inhabitants, many of whom are cutlers and hardware-men.

Salinas, above Mondragon, near the Deva, on a hill containing iron mines and salt springs.

Vergara, between Salinas and Placentia, on the right bank of the Deva, is a tolerably built town, containing about 3000 inhabitants, and the seat of a royal society, bounded on the east and west by hills.

Aspeytia, a little town, eastward of Placentia, in a pleasant valley, near which are the districts of Loyola and Onis, formerly the property of Ignatius, founder of the celebrated order of Jesuits. The mountains in this district are inhabited by a few shepherds.

3. The mountainous territory of *Alava*, formerly called the kingdom of Alaba, of a triangular form, contains some tolerably fertile tracts, yielding rye, barley, and several kinds of fruit. In the hills are rich iron and steel mines.

Vittoria, the capital, is an indifferently built, walled town, on an eminence, containing 5 parish churches, 6 convents, 3 hospitals, and 5400 inhabitants, at the termination of a pleasant valley, 20 leagues S. W. of St Sebastian, and 15 from the sea coast. This place carries on a considerable trade in iron, steel, wool, wine, and sword blades. Beyond Vittoria southward, the country becomes open and flat; and detached ridges of lime-stone hills intersect the plain.

Trevino, a little town, with a castle, on a hill, a few leagues south-west of Vittoria, on the left hand of the river Ebro. *Penna Cartado*, among high mountains. *Onate*, the seat of an university, and *Salvatierra*, near the confines of France, are places of little note.

There is an excellent road made and carried through the whole province of Biscay to the frontier of France. The scenery in several districts of this province is picturesque. The vallies and plains are diversified with fertile spots, woods, gardens, and villages. The mountains are covered with forests and pastures, and the acclivities are cultivated as far as nature will admit. The inhabitants are handsome, active, cheerful, and their houses neatly built.

3. GALLICIA.

Gallicia, formerly a kingdom, bounded on the west and north by the sea, on the east by Asturias and Leon, on the south by Portugal, composes the north-west corner of Spain; lying between 41° 50′ and 43° 46′ N. latitude, and between 6° 10′ and 9° 10′ W. longitude; being 30—45 leagues from north to south, and 40—45 from west to east. Mountainous, and not fertile, except in good pastures, it is supposed to contain 3242 parishes, 7 boroughs, 60 market towns, 11 cathedrals, 12788 religious houses, colleges, and hospitals, and 242264 families. Along the sea coast are some convenient ports, with little trade. The two most noted promontories are Cape Finisterre and Cape Ortegal, the extreme

treme points of land, on the west and north coasts. The former is nearly south, a little westerly, about three leagues from Cape Toriano, and ships may anchor on the east of a great rock, in six or seven fathoms, where is a great bay that runs far inland. Forty-two leagues north-west by west from Cape Finisterre, there is a large rock above water dangerous to navigators. Cape Ortegal is about twelve leagues north north-east of Ferrol, and nine west north-west of St Cyprian. A ridge of rocks lies off the Cape; but there is a good channel between the rocks and the Cape in ten fathoms.

Rivers.—The Tambra and Ulla originate in the interior part of the province, and run south-west to the sea. The course of the Minho has been already described. The Sil descends from the mountains in the district of Cervantes, and in a very circuitous course proceeds westward to augment the Minho several leagues north of Orense. The Eu runs from south to north along the common boundary of Gallicia and Asturias.

Cities, &c.—*S. Iago de Compostella*, the capital, and an archbishop's see, with a revenue of 60,000 ducats, is a considerable and flourishing city, containing several palaces, an university of little reputation founded A. D. 1532, a tribunal of inquisition, twelve churches, a large hospital, 14 convents and religious houses, and 10,000 inhabitants, situate in a fertile and agreeable plain, between the rivers Tambra and Ulla, 56 miles east of Cape Finisterre. From this city the order of the knights of St Jago, or St James, take their name, and a certain number of them constantly reside here. The climate is moist, and the soil indifferently fertile.

Bayona, a small decayed town, defended by a fort, a few leagues westward of Tuy, on a bay with a convenient harbour, near the south border of the province. At the entrance of the bay are certain islands formerly called the islands of the gods, now the islands of Bayona, at the south end of which are several rocks and shoals. On the coast of the mainland, it is high water at spring tides a few minutes past three o'clock.

Tuy,

Tuy, a walled town and bishop's see, containing about 3000 inhabitants, with a fortress, pleasantly situate on a rising ground bathed by the Minho, opposite to Valenca in Portugal, five leagues above the mouth of the river, in a fertile and well cultivated but unhealthy tract.

Vigo, a large fishing town, with a fort on an eminence, north of Bayona, on a bay with an excellent port, where the English and Dutch fleets seized the Plate fleet A. D. 1702. It is 70 miles south-east of Cape Finisterre, in a fruitful and salubrious territory.

Pontevedro, a small thinly inhabited town, with some trade, five leagues north north-east of Vigo, in a fruitful and agreeable tract, near the extremity of a gulf, at the mouth of which is the little island of Donas.

Padron, an old walled town, in an agreeable valley of the same name, watered by the Ulla, which originates among the mountains in the interior part of the province.

Noya, a small town noted for ship building, at the extremity of a fertile plain above the mouth of the Tambra, ten leagues south-east of Cape Finisterre.

Corunna, or the Groine, a sea-port divided into the upper and lower town, walled and defended by a castle and fort, containing four parish churches, and 3500 inhabitants. It is situate on a peninsule, partly on a declivity and partly at the foot of a mount. Its harbour is secure, and the light-house was built in the time of the Romans. To this port the English packet boat comes in time of peace. Corunna is 22 leagues east north-east of Cape Finisterre, and 16 south south-west of Cape Ortegal. At spring tides it has high water at three o'clock.

Betanzos, a little town with a harbour, to the eastward of Corunna, on the river Mandeo, and on the same side as Corunna. There is anchorage under a row of rocks in ten or twelve fathoms.

Ferrol, a handsome town, containing 7500 inhabitants, seven leagues north of Corunna. It has a commodious harbour, with the principal maritime arsenal in the kingdom. In this station the Spanish fleet frequently

quently secured itself during the late wars. The haven lies in a small bay, and contains a bason of 1500 yards in length, and upwards of 500 in breadth, where the ships are laid up. So long ago as 1774, two docks were finished, and two more were planned out, besides rope-walks and store-houses. It is high water at spring tides about three o'clock.

Mondonedo, an inland town and bishop's see, containing 5000 inhabitants, in a delightful plain at the foot of the mountains, nine leagues from the north-east extremity of the province. *Castro de Oro*, is a fortress in the vicinity of the town. *Sierra de Mondonedo*, is a branch of the Asturian Mountains.

Lugo, anciently a considerable, now a small town, and bishop's see, containing a cathedral, three parishes, and several convents and hospitals, ten leagues south of Mondonedo, on a rising ground bathed by the Minho, and formerly noted for its warm baths. A synod was held here A. D. 564. In the adjacent elevated districts, most of the rivers originate, and run west and south-west to the sea.

Orense, a well built town and bishop's see, containing several parishes, 2 convents, and 2 hospitals, situate in a delightful but unhealthy country, abounding in wine and excellent fruit, below the influx of the Sil or Velezar into the Minho, 18 leagues S. S. W. of Lugo, 15 N. E. of Tuy, 17 S. E. of Compostella. It is famous for its hot springs.

Monforte de Lemos, a small town, with a palace, on an eminence in the midst of a plain, east of the Minho.

Rivadavia, a town noted only for its vineyards, 5 leagues N. N. E. of Vigo, at the conflux of the Minho and Avia.

Viana, a small town on a hill, in the S. E. corner of the province.

Monterey, or *Monte-Rei*, a small walled town, defended by a fort, on a hill bathed by the Tamega, 7 leagues S. W. of Viana. In that neighbourhood are several tin mines.

4. LEON

Leon, bounded on the north by Asturias, on the east by Old Castile, on the south by Estremadura, on the west by Portugal and Gallicia, lies between 40° and 43° N. latitude, and between 4° 10′ and 5° 25′ W. longitude; its length from north to south being upwards of 200, and its mean breadth 90 miles, containing 1,200,000 inhabitants. By the river Douro it is divided in two parts nearly equal, called north and south Leon.

This province, in general hilly, and more fertile in corn than in wine, derived its modern appellation from the city Leon, whither the seat of royalty was translated from Asturias in the reign of Ordonno II. the son of Alfonso.

Rivers.—The principal river is the Douro, which runs from east to west, and traverses a narrrow part of Portugal to the sea. The Sil originates in the Mountains of Asturias, which bound the N. W. part of Leon, flows S. W. through the district of Cervantes, and enters into Gallicia below Ponferrada. The Ezla, from its source in the Asturian ridge N. E. of Leon, runs southward to the Douro, into which it falls below Zamora. The Carion rises in Old Castile, waters Palencia in its progress southward, and soon after loses itself in the Pisuerga, which descends from the north-west corner of Old Castile, and falls into the Douro at Simancas. The source of the Tormes is near the southern extremity of the province, and the direction of its course is northward to Salamanca, and thence north-west to the Douro, several leagues below Miranda.

Cities, &c.—*Leon*, the capital, so called from Legio Septima Germanica, is an irregularly built, decayed town, and bishop's see, containing 13 parish churches, a considerable number of religious houses, and 6000 inhabitants; situate at the termination of a plain, bounded on the north by the mountains of Asturias, below the source of the Ezla. The cathedral is one of the most elegant churches in Spain, and in it lie interred

red several saints, one emperor, and many kings. Destitute of commerce, and almost of manufactures, this city is supported by the church. In every street beggars abound, fed by the convents, and at the bishop's palace. The surrounding country is bold and beautiful, but ill-cultivated.

Villafranca-vierzo, a small town, containing a parish church, a convent, a seat of the Marquis of Villafranca, on a gently elevated site, 18 leagues west of the capital, near the district of Cervantes, is environed by hills. The prospect from the town is agreeable.

Ponferrada, a town containing a parish church, 2 convents, and 2000 inhabitants; 4 leagues south-east of Villafranca, on a rising ground, at the confluence of the Boega and the Sil, in a district yielding corn, wine, flax, and fruits. Some authors place this town in Galicia.

Astorga, a small fortified town and bishop's see, containing a cathedral, 5 churches, with several convents and hospitals, and 3000 inhabitants, 30 miles south south-west of Leon, in a pleasant valley near the river Tuerta, which falls into the Elsa. Twelve miles from Astorga, near the river Urbicus, the Suevi were defeated by the Goths, in the middle of the fifth century.

Sahagun, a town containing several parish churches, 2 convents, an elegant Benedictine abbey, and upwards of 3000 inhabitants, on the river Cea, 11 leagues south-east of the capital.

Benavente, a town containing a palace with a fine garden and park, several parishes, and 2200 inhabitants, 40 miles south of Leon, on the Ezla above its confluence with the Tuerta, or Torto.

Saldagna, an inconsiderable town, in a valley at the foot of mount Pegua de san Roman, near the source of the Carion, at the north-east extremity of the province.

Carion de los Condes, a small town, and the seat of a council under Honorius II., on the river Carion, 6 leagues south of Saldagna.

Palencia, a small town containing 5 churches, 11 convents, and 9000 inhabitants; in a fertile tract watered by the Carion, above the conflux of this river, the Pisuerga, and the Arlancon, all of which originate in Sierra d'Occa. It is the see of a bishop, whose revenue is 24,000 ducats. Situate 19 leagues south-east of the capital, near the east border of the province, it had an university founded about the beginning of the 13th century, which, A. D. 1239, was removed to Salamanca.

Medina del Rio Secco, a meanly built town, 17 leagues, or 52 miles south south-east of Leon, in a pleasant and fruitful valley.

Villalpanda, a little town 20 leagues south of the capital, in a pleasant and fruitful level tract, where the field-marshals of Castile have a palace and armoury. It contains about 5000 inhabitants.

Simancas, an indifferently built town, containing 1600 inhabitants, near a chain of white bare hills, at one of their angles, a few miles below Valladolid near the influx of the Arlancon into the Douro. In its castle were deposited the archives of the realm; and in a field adjacent, A. D. 938, was gained that signal victory over the Moors, which gave rise, as is pretended, to the Voto de Santiago. The environs are noted for excellent white wine.

Toro, an ancient town, containing 6600 inhabitants near the Douro, and 12 leagues below Simancas, on a hill famous for its wine. Here the laws called Leyes de Toro were enacted in a diet of the kingdom. From this place there is a delightful prospect.

Zamora, anciently the residence of the kings of Leon, now an ill built and indifferently fortified town, containing 23 parish churches, 16 convents, and 8300 inhabitants, on an eminence bathed by the Douro, below Toro, 26 leagues south of Leon. It has some manufactures of hats, serges, coarse cloth, &c.—and is the see of a bishop, whose revenue is 31,000 ducats. Here is kept the body of St Ildefonso, formerly bishop of Toledo. The road hence northward to the capital, in general level, lies

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for most part along the bank of the Elsa. The soil in that tract is granite, sand, or clay, and the villages are built of mud.

Medina del Campo, an old town, the birth place of Ferdinand I. King of Aragon, and of Ferdinand the Emperor, containing 14 parishes, 15 convents and religious houses, 1 hospital, and 2500 inhabitants, in a fruitful country, eight leagues south of Simancas. It is a place of little trade, formerly noted for its great privileges, and for three considerable annual fairs. It is situate on the Zapardiel, a small stream that runs northward to the Douro. The collegiate church is admired for its roof; the houses are of brick, low and irregularly built; and the town is in a state of decay. The soil is granite sand mixed with gravel. Towards Valladolid the country, diversified with gentle eminences, abounds in corn and wine.

Salamanca, a large but decayed town, containing 25 churches, 3000 houses, 39 convents, and 5 hospitals, situate partly on three eminences and partly in a plain, 38 leagues south of Leon, on the Tormes, which falls into the Douro at Fermosella, near the frontier of Portugal. The university founded A. D. 1200, and formerly the most noted in Spain, is now declined. In 1785 the number of students matriculated was 1909 only, whereas at one period 16000 were reckoned. The cathedral, a venerable structure, founded in 1513, and finished in 1734, is 378 feet long, 181 wide, 130 high in the nave, and 80 in the ailes. All the streets are narrow; and the country is greatly depopulated. Over the Tormes is an old Roman bridge composed of 25 arches.

Alva de Tormes, a town consisting of 300 houses, 5 convents, and 2000 inhabitants, on a cognominal river four leagues southward of Salamanca, and noted for being the birth place of the Duke of Alva, distinguished by his cruelties in the wars of the low countries. In a tower of the castle is deposited the armour of all the Dukes of Alva. Thence south-east to Avila, the country is for the most part broken, rugged, hilly, and thinly inhabited.

Ledesma, formerly called Bletisa, an old fortified place, containing five parishes, two convents, and 1500 inhabitants, near the Tormes, several leagues west of Salamanca. The county of Ledesma extends 14 leagues from west to east, and is said to contain 79 villages and hamlets, with about 30,000 inhabitants. It yields wine, olives, and excellent pastures. Two leagues south-west of the town are frequented hot baths.

Cividad Rodrigo, a fortified town, containing a Gothic cathedral, six parishes, nine convents, two hospitals, and 9000 inhabitants, founded by Ferdinand II. King of Leon, in a fertile territory watered by the Agueda, 15 leagues south-west of Salamanca. It is the see of a bishop, whose revenue is 8000 ducats; and was one of the three places of rendezvous for the Castilians when they invaded Portugal. Here excellent soap is manufactured. This town has two suburbs.

The district of Batueca, about eight leagues east of Rodrigo, and twelve north of Placentia, is a rocky, barren, and frightful tract, long reputed the abode of wretched spirits and demons. It consists of two vallies.—1. That of Batueca, a league in length, in some places very narrow, and inhabited by a few miserable peasants, who lodge among the rocks, and have scarcely four hours of day in winter. 2. The valley of Jurdes, or Vurdes, four leagues long and three broad. Some grains of gold are found in the bed of the river by which this district is watered. Wild beasts and reptiles abound.

5. ESTREMADURA.

Estremadura of Castile is bounded on the north by Leon, on the east by New Castile, on the south by Andalusia, on the west by Portugal; lying between 38° and 40° N. latitude, and between 7° 10′ and 4° 40′ W. longitude; being 140 miles from north to south, and 90—140 from west to east. It is traversed by the rivers Guadiana and Tajo, which divide it into three equal parts. Intersected by ridges of hills, it abounds

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in grain, fruits, and excellent pastures; but there is scarcity of good water. This province was united to Castile in the preceding century. It contains 10,200 square miles, and 450,000 inhabitants.

The principal rivers are the Tajo, and the Guadiana, which run from east to west, dividing the province into three almost equal parts. The Tajo flows from a copious source called the fountain of *Abrega*, passes through a cleft between two masses of solid rock 400 feet perpendicular height, in its progress bathes Aranjuez, Toledo, Alcantara, and Lisbon, below which it falls into the ocean. The springs and course of the Guadiana are elsewhere described—[*See Hispania and New Castile*].

Cities, &c.—*Badajoz*, formerly Badallos, the capital, is an ancient, tolerably built city, containing a cathedral, 14 convents and religious houses, 5 hospitals, and 8000 inhabitants, in a fruitful territory watered by the Guadiana, 13 leagues below Merida, 32 eastward of Lisbon, near the confines of Portugal. It is the see of a bishop, whose revenue is 26,000 ducats. The fortifications are chiefly in the old taste, but some of the out-works are modern. Most of the streets are narrow; the houses are small and crowded. The bridge, consisting of 28 arches, is 700 paces long. In the adjacent districts the sheep produce the finest wool. The road thence to Madrid is excellent.

Placenzia, built by Alfonzo IX. king of Castile, A. D. 1190, is a considerable town, containing 8 churches, 9 convents, and 5000 inhabitants, defended by a fort, on the Xerte, in a beautifully variegated, fertile, and populous valley, between two ridges of mountains near the border of Leon, 35 leagues N. N. E. of Badajoz. It is a bishop's see, with a revenue of 50,000 ducats. Its environs produce olives, vines, grain, and fruits, in great abundance, and of an excellent quality.

St Justus, a monastery, in a pleasant valley near Placenzia, whither Charles V. retired A. D. 1556.

Coria, a small walled town and bishop's see, containing 1000 inhabitants, noted for its cathedral, in a fruitful plain, near the Alagon, 10 leagues

leagues south-west of Placenzia. An earthquake, having changed the bed of the Alagon, this place has now a bridge without a river, and a river without a bridge. *Alcantara*, formerly Al-Cantar, a small fortified town, built by the Moors, on an eminence bathed by the Tajo, 17 leagues north of Badajoz, near the border of Portugal. Its bridge, built in the reign of Trajan, consists of 6 arches, 714 English feet in length, and 30 in breadth. This place was given by Alfonzo IX. king of Castile, to the knights of the order of Calatrava, who afterwards assumed the name of Alcantara. It was taken by the Earl of Galloway, A. D. 1706, and retaken by the French in November following. The cognominal valley is noted for its aqueduct of white marble, which extends from one hill to another, and conducts the water into a cistern on the skirt of the town. It has 35 arches, of which the middle one is 249 feet in extent, and 332 high. Built A. D. 1748, it resisted the earthquake in the 1755. The population of this place is estimated at 2600. Its environs are fertile, but indifferently cultivated.

Brozas, the birth place of Sanctius, a celebrated grammarian, containing a parish church, 2 convents, and about 4000 inhabitants, 3 leagues south-east of Alcantara.

Albuquerque, a small town on a declivity, containing 2 parishes, 2 convents, and 5000 inhabitants, defended by a castle on the summit of the hill between Alcantara and Badajoz; taken A. D. 1705 by the Portuguese, who kept it till the peace of Utrecht.

Valencia d'Alcantara, a little town with a castle on a rock, 5 leagues northward of Albuquerque. It was taken by the Portuguese, A. D. 1705.

Caceres, a town containing 4 churches, 7 convents, an hospital, and 5500 inhabitants, 11 leagues east south-east of Alcantara, on the Sabor, a small stream that runs westward to the Tajo. This place is noted for fine wool, but is destitute of trade and manufactures.

Truxillo, a considerable but irregularly built town, containing 6 parishes, 10 convents, and 3500 inhabitants, the birth place of Pizarro the conqueror

conqueror of America, situate on the declivity of a rocky hill, on whose summit is a castle in ruins, 10 leagues south-east of Caceres, on the left hand of the river Alamonte, which loses itself in the Tajo. The streets are narrow, ill paved, and dirty. The country consists chiefly of sheep-walks, in which shepherd's huts are thinly scattered.

Medellin, a town containing 4 parishes, 3 convents, 2 hospitals, and about 1000 inhabitants, on the right hand of the Guadiana, 8 leagues above Merida, at the foot of a hill on which is a ruinous castle. Without trade, or manufacture, it is noted only for being the birth-place of Ferdinand Cortez. A bridge across the Guadiana consists of 26 arches. The neighbouring territory yields good pastures.

Jurayzejo, a small place with many remains of Gothic architecture, 4 leagues north of Truxillo. The road thence to Madrid is uneven and disagreeable.

Merida, formerly the capital of Estremadura, now a greatly decayed, open town, containing 3 parishes, 9 convents, and 4000 inhabitants, pleasantly situate on an eminence in a plain abounding in grain, excellent fruits and pastures, near the Guadiana, 13 leagues eastward of Bodajoz. In this place are some remains of antiquity, in particular a triumphal arch called Arco de Santjago.

Montijo, a town containing a parish church, an handsome seat, and 2500 inhabitants, 4 leagues below Merida, on the right hand of the Guadiana.

Xeres de los Cavalleros, a walled town consisting of 4 parishes, with 7 convents and 8000 inhabitants, 11 leagues south of Badajoz, near the south-west extremity of the province. This place formerly belonged to the Templars, and received from Charles V. the title of city.

Ellerena, a town containing about 7000 inhabitants, in a low tract abounding in fruits and pastures, at the foot of Sierra Morena, 17 leagues south south-east of Merida, near the border of Andalousia. In the

the mountains, 4 miles from the town, a silver mine was formerly discoverd.

Salamea de la Serena, an old town on a mountain, defended by a castle, 8 leagues northward of Ellerena. In its vicinity there is a lead-mine, with one of silver.

Medina de los Torres, a small town and capital of a dutchy, 14 leagues south-east of Badajos, at the foot of a mountain.

Zafra, a town containing 2000 inhabitants, defended by a castle, 11 leagues west of Ellerena, in a fertile territory tolerably cultivated. The soil and rocks are calcareous, and marbles of various colours are there found.

ANDALOUSIA.

Andalousia, an appellation derived from Handalusia, i. e. the region of the evening, or from Vandalitia, an ancient name of Bætica, is bounded on the north by Estremadura and New Castile, on the east by Murcia; on the south by Granada, the strait of Gibraltar and the ocean; on the west by Portugal; lying between 36° and 38½° N. latitude, and between 7° 25′ and 2° 30′ W. longitude; being 70—150 miles from north to south, and 80—190—320 from west to east, containing 1,270,000 inhabitants. This province, traversed from east to west by the Guadalquivir in the middle age, called Wad-al-kibir, is reckoned the most fertile and delightful part of the kingdom, abounding in all kinds of fruits, honey, excellent wine, grain, silk, oil, cattle, horses, metals, &c. Sevile, Cordova, and Jaen, are the states of which it is composed.

1. The rich and populous province of Sevile is of a square form, 46—55 leagues from north-west to south-east, and 40—45 from south-west to north-east, watered by the Tinto, Guadalquivir, Guadalete, and other streams, the direction of whose courses is from north-east to south-west.

Cities,

Cities, &c.—*Sevile*, the capital, supposed to be founded by the Phœnicians, who called it Hispalis. By the Romans it was named Julia, and by Spaniards Sebilla or Sevilla. Under the Roman government it was embellished with many magnificent buildings. The Gothic kings resided here before their removal to Toledo. Musa the Saracen viceroy took it by storm. In the year 1027 it became an independent sovereignty, which was annihilated by Jusef Almoravides, an African prince, who came into Spain A. D. 1097. Ferdinand III. forced it to capitulate, when, it is said, 300,000 Moors left the city. Soon after the conquest of America, it became a large and flourishing place. Its court was then the most splendid in Europe, its streets were thronged with an immense concourse of people, its river crowded with ships, and its keys covered with merchandize. But the navigation of the river being very difficult, in a few years it declined, and the galleons were stationed in the port of Cadiz. It is still a large, tolerably built, though decayed city, containing 30 parishes, many convents and hospitals, and 70,200 inhabitants, environed by a wall of Moorish construction 5½ miles in circuit, with 176 towers, in a fruitful and extensive plain, 20 leagues above the mouth of the Guadalquivir. Its principal edifices are, the cathedral, a large pile without elegance or proportion, founded A. D. 1401, 420 feet in length by 263, and 126 high, with 80 windows of painted glass; the exchange an elegant square building now deserted by merchants; an university founded in 1504; an academy of belles lettres instituted in 1730; a gloomy gothic castle in the suburb of Triana on the west side of the river, where, A. D. 1482, the inquisition formed its first establishment in Spain; the hospital de la Sangre, and the college of St Elmo, founded for a marine school, more remarkable for their size than for any other merit. Most of the streets are narrow, crooked, and dirty. The Alameda, or great walk, in the heart of the city, is 600 by 150 yards, decorated with three fountains and several statues. The principal manufacture is snuff, in which 1000 men are constantly em-

ployed. A large aqueduct, indifferently constructed, conveys an abundant supply of water into the city, several leagues from a place called Alcala. The environs are low and liable to be overflown. To the north-west, on the opposite side of the river, there is scarce a vestige of Sevilla Vieja, or Italica, which was built on several eminences bathed by the Guadalquivir; now this river has changed its course, and forced more into the heart of the plain. There is a faint vestige of the amphitheatre, an oval of 291 by 204 feet. From Sevile to the mouth of the river, on either hand, the soil is flat and deep, and covered with perpetual verdure.

Realejo is a considerable town on the frontier of Estremadura.

Paymago, a small town, fortified by nature and art, on the confines of Portugal, 13 leagues from the sea-coast.

Gibraleon and Guelva, inconsiderable places, near the conflux of the Odiel and Tinto, whose united streams fall into the bottom of a bay 13 leagues north-west of the mouth of the Guadalquivir.

Moguer, a place of some trade, containing about 4000 inhabitants, near Palos, and the mouth of the Tinto, 25 leagues west of the capital.

Almonte, a town of some note, north-east of Moguer, in a fertile and agreeable tract.

Ayamonte, a small town, containing 5000 inhabitants, defended by a castle on a rock, at the mouth of the Guadiana, where is a commodious harbour.

Traigueros, a tolerably built town, a few leagues north-east of Gibraleon, in a fine country watered by the Tinto, at some distance from the sea-coast.

Niebla, a town containing 3 parishes and 6000 inhabitants, on the Tinto, 8 leagues north-east of Gibraleon. Not far southward of Niebla, at the village of Tinto, there is a copper-mine.

Palos, at the mouth of the Tinto, whence Columbus took his departure A. D. 1492, in his first voyage of discovery.

San

San Lucar de Barrameda, a tolerably built, declining town, containing about 5000 inhabitants, on an eminence at the mouth of the Guadalquivir, which is wide and rough at the bar. The harbour is good, and the road spacious. This is the port and key of Sevile. A whole fleet may ride in safety in its road, and ships of burden do not go any higher up, as the river is of difficult navigation. The adjacent territory is arable, with few inclosures.

Lebrixa, an ancient and considerable town, in a pleasant valley, abounding in grain, wine and oil, 8 leagues eastward of San Lucar. The lake of Lebrixa is a handsome piece of water surrounded by sloping grounds. Between this place and Xeres, the neglected soil is calcareous, and the scenery wild; but between Lebrixa and Marchera, the country is cultivated and fruitful.

Xeres de la Frontera, a considerable, indifferently built, populous town, containing 27,000 inhabitants, with winding streets and kennels of black stagnated water, on a gentle eminence bathed by the Guadalete, 6 leagues north-east of Cadiz, famous for horses, and for what is called in England Sherries wine. The views from the neighbouring hills towards Cadiz are agreeable. The banks of the river are marshy and flat, and no wood is to be seen there. Near Xeres a decisive battle was fought by the Moors against the Christians, July 26. A. D. 711. The road thence to Cadiz gradually declines through a sandy territory.

Arcos, an old fortified place, on a steep rock bathed by the Guadalete, above Xeres; thence is a fine prospect of the country. *Puerto de St Maria*, a tolerably built, trading, open town, with broad and paved streets, containing 14000 inhabitants, at the mouth of the Guadalete opposite to Cadiz. It has a convenient harbour which is the rendezvous of some of the Spanish gallies.

Cadiz, a famous sea-port, and the emporium of Spanish commerce, is an ancient, tolerably built, fortified city, which occupies the whole surface of the western extremity of the island of Leon, composed of two

circular parts joined together by a narrow bank of sand. Divided into 24 quarters, it contains two considerable squares, two stately cathedrals, a Plaza di Toros, an academy for painting, sculpture, and architecture, and 68000 inhabitants. Towards the sea it is defended by rocks, and on the land side by works erected at a vast expence. Some of the streets are broad and strait; but most of them are narrow and ill paved. The houses are lofty with each a vestibule, and all of them are encompassed with a rampart, which forms an agreeable promenade. At the south-east end, the ancient bridge of Suaco, thrown over a deep channel, affords a communication between the island and the continent; and both its extremities are fortified by redoubts and other works. The island, from fort St Catalonia to the isle St Pedro, is five miles long; and from the south point near the latter to the north near Suaca bridge it is two miles broad. The bay is twelve by six miles; and near the middle of it are two points of land, one on the continent and the other on the island, 500 fathoms asunder, on which are the forts Puntal and Matagordo commanding the passage. Within those points is a large and good harbour, which no enemy can enter till the forts are reduced. This place is the centre of all the American trade, where the galleons take in their loading, and return with the treasures and rich merchandise of Peru and Mexico. Before and after the arrival of the flotta, the city is crowded with strangers. There is scarce a tree on the island. The opposite shore on the mainland is studded with villages and seats. Thence to Gibraltar, the road lies partly through an uneven and hilly tract, diversified with delightful vallies, and partly through an open country. Cadiz was recovered from the Moors A. D. 1260. In the year 1596, it was plundered and burnt by an English fleet under the command of the Earl of Essex. The trade of this city employs about 1000 vessels, of which one-tenth perhaps is Spanish. In 1784, the value of exports amounted to L. 3,621,443 Sterling, and that of imports in money, jewels, and merchandise to L. 11,287,921 Sterling. During the late and present war it has been

held

held by the English in a state of blockade. The tide runs here north-east and south-west; and at spring tides it is high water at half past four o'clock. October 21st 1805, Lord Nelson gained a complete victory over the combined fleets of France and Spain off Cape Trafalgar, between Cadiz and Gibraltar. Nineteen of their ships were taken or sunk, and one was blown up.

Chiclana, a small well built town, eastward of Cadiz, on a navigable stream that winds through the lowlands into the bay. This place is the summer retirement of some opulent merchants.

Medina Sidonia, an old neat town, nine leagues or 26 miles east of Cadiz, on an eminence in a fruitful territory, beyond which are waste tracts capable of improvement.

Tarifa, a small, meanly built, walled town, with narrow and ill paved streets, containing 800 inhabitants, on the strait eighteen leagues south-east of Cadiz. Here the Moors under Tarif made their first descent; and here the Christians defeated the Moors, A. D. 1340.

Algeziras, an old decayed town, consisting of a few scattered houses on the west side of Gibraltar Bay, and opposite to the fort. In the siege of this place, A. D. 1344, the Moors employed cannon. In its environs are several ruins. The harbour is formed by two islands, and from thence it has its name.

Gibraltar, Gebel Tarif, or Tarik, so called from the Moorish general who landed here in the beginning of the eight century, is a famous town and fortification, one of the keys of Spain, situate on a rock in a peninsule at the southern extremity of Spain, 24 leagues south-east of Cadiz. The mountain on which this fortress is built, is 14000 feet above the level of the sea, upwards of 6000 in length, and joined to the main-land by an isthmus 200 paces long, across which the Spaniards have drawn a line and fortified it, to prevent the garrison from having any communication with the country. The town, composed of two parallel streets, containing 7000 inhabitants, is situate on the northern extremity of

of the rock, and inclosed by strong walls. The tract, extending from the south wall of the town, is covered with buildings, gardens, and vineyards, half way up to the top of the rock. There are barracks, a naval and dock yard, an hospital, artillery stores and magazines, and a reservoir capable of holding 4000 tons of water. From the line wall on the sea coast, the ascent in general is gradual for about 6 or 700 yards, beyond which it is steep, rugged, and of difficult access. The opposite side of the rock is almost perpendicular from the sea. Formerly this fortress was thought impregnable, but, A. D. 1704, it was taken by the confederate fleet under the command of Sir George Rook. It is still in possession of the British, to whom it was ceded by the treaties of Utrecht and Sevile. On September 13th 1782, the Spaniards attacked it with floating batteries and 212 brass cannon in ships from 600 to 1400 tons burden; but this attempt ended in the destruction of all the batteries, and most of the assailants in them. The bay is twenty leagues in circuit, the town of Algeziras being on one side, Gibraltar on the other, and the town of St Roche and the Spanish lines, together with the neutral ground, forming the head of the bay. The harbour is formed by a mole well fortified; and the strait is 24 miles long and 15 broad. From the summit of the rock is a prospect of the sea on each side, the kingdom of Barbary, Fez, and Morocco, besides Sevile and Granada in Spain. The garrison are confined within a narrow compass, and have no provisions but what are brought from Barbary and England.

The following places of some note lie in the interior parts of Sevile, *viz.*

Ossuna, a large indifferently built town, five leagues southward of Ecija. An university was erected here A. D. 1549. The environs are agreeable, gentle eminences are cultivated, and large plantations of olives flourish on the declivities. To the westward are extensive heaths and grounds.

Marchena,

Marchena, an old town with a large suburb, on an eminence in the middle of a plain. There is little water in its vicinity.

Ecija, a town containing six parish churches, eight chapels, twenty convents, six hospitals, and 28,000 inhabitants, in a fertile tract environed by hills, on the river Xenil, twelve leagues south-west of Cordova. In this place are few signs of industry, except several tanneries and a numerous corporation of shoemakers. The Plaza Mayor is admired for its balconies. The adjacent soil is calcareous and fertile, abounding in excellent pastures. Between this place and Ossuna are several fens or morasses called Lagunas. The country north-east is diversified with downs, well cultivated spots, and plantations of olives. The soil south-west to Carmona is indifferently improved, and the cottages are mean: a level and sandy tract extends westward to Sevile.

Carmona, an ancient and considerable town, containing seven parish churches, seven convents, and two hospitals, on a declivity looking down on a rich valley bounded by distant hills, except to the west where the river has a passage, seven leagues eastward of Sevile. Its castle lies in ruins. A gate and part of its walls are of Roman workmanship.

Las Cabecas, a little town, ten leagues south-west of the capital, near a ridge of mountains that extends south-east to Malaga.

Alcala de los Gazules, on an eminence between Medina Sidonia and the border of Granada, a place of little note.

Bornos, in a fertile tract bounded by mountains, 13 leagues south south-west of Sevile, on the Gaudalete which runs westward to the gulf of Cadiz. The environs yield abundance of grain and fruits.

Moron, containing 11000 inhabitants, seven leagues south of Sevile, in a fruitful plain, not far from Sierra de Leyta.

Alcantarilla, eight leagues south-west of the capital, at some distance from the Guadalquivir, where the Romans built a bridge across the marshes formed by the overflowing of the river.

Marchena,

Marchena, an old town with a large suburb, on an eminence in a plain, four leagues west of Ossuna, and three south-east of Carmona.

Pennaflor, 14 leagues north-east of Sevile, on the border of Cordova, bathed by the Guadalquivir.

Guadalcanal, a little walled town, 15 leagues northward of Sevile, near the north boundary of the province, environed by a branch of the Sierra Morena, formerly noted for mines of quicksilver, which have been long neglected, and lately in vain explored. At *Constantina*, a village, are several mines of minerals and metals.

Cordova, formerly a royal residence, and the birth-place of the Senecas, Lucan, Martial, and other learned men, is now a large, indifferently built, thinly inhabited town and bishop's see, with fine suburbs, 25 leagues north-east of Sevile, on the Guadalquivir, in a spacious plain bounded on the south by swelling hills cultivated to their summits, and on the north by a chain of rugged mountains, the continuation of the Sierra Morena. It contains 15 parishes, 44 convents, and 20,000 inhabitants. The walls are in many places just as the Romans left them; the streets are crooked and dirty; and few of the public buildings are worthy of notice. The palaces of the inquisitor and bishop are extensive and well situate. This town, originally built by the Romans, was indebted to the Saracens for its glory. In 759, Abdoulrahman of the Ommiad line rendered it one of the most flourishing cities in the world. Agriculture, commerce, arts, and sciences, flourished under his auspices. It was long the centre of politeness, industry, and genius. Geometry, astronomy, and physic, were regularly studied and practised. An university was founded which soon became famous. Nothing at present remains of the ancient magnificence of this city, except the mosque. This grand edifice was begun by Abdoulrahman and finished by his son about A. D. 800. Before it underwent any alterations it was a square building 510 feet long, 420 broad, and 35 above the pavement. The roof was supported by 778 columns of marble, which formed 19 ailes

from

from west to east, and 29 from north to south. Its 24 gates were plated with bronze, and embossed in a curious manner; 4700 lamps burned in this mosque every night. A minute description of its recent state may be found in Swinburn's Travels, p. 298. The environs are diversified by woods, hillocks, and culture. Much of the flat land is laid out in gardens, and the upper ground is over-run with oaks and pines. The whole territory is well wooded, well watered, and well cultivated. There is a bridge of 16 arches across the river. A league northward are the ruins of a Moorish castle built by Abdoulrahman III. in a delightful valley. Above Cordova the river runs in a fine vale, between two ridges of hills covered with hanging woods and olive plantations. The plains on either hand to the eastward are rich and beautiful, with small towns and castles near one another. The Roman road extends to Andujar and beyond it. At some distance from the town are marble quarries and copper mines.

Bajulanza, a tolerably built town, containing 4000 inhabitants, 6 leagues east of Cordova, in a territory abounding in corn, wine, honey, and oil.

Montilla, a town containing 2 parishes, 7 convents and religious houses, and 3000 inhabitants, 7 leagues southward of Cordova, in a pleasant valley, famous for its wine, near Mount Major.

Alcaudite, a small town, 9 leagues south-east of Cordova, among calcareous hills, defended by a castle. Some geographers place this town in Jaen.

Baena, a mean town, without trade or manufacture, on an elevated tract, near the Maravella a small stream that runs west to the Guadalquivir, and a few leagues south of Bajulanza.

Priego, a considerable and populous town, about 4 leagues south south-east of Baena.

Lucena, a small town, with a seat of the Duke of Medina Celi, in a plain about 7 leagues south-west of Priego, in the south corner of Cordova.

Palma, a town of little note, south-west of the capital, on the Xenil one-fourth league above its influx into the Guadalquivir.

Jaen, the smallest of the three divisions of Andalousia, is a mountainous territory to the eastward of Cordova, containing silver, copper, and lead mines. Its cognominal town, formerly called Giaen, and the capital of the Moorish kingdom of the same name, is a bishop's see, situate at the foot of a mountain 18 leagues east south-east of Cordova, and defended by a castle. It contains a cathedral, 12 parishes, 15 convents, several hospitals, with manufactures of silk, linen, &c. The hilly environs yield fruits and excellent pastures.

Baeza, a small walled town on an eminence at the termination of a pleasant plain, 5 leagues north north-east of Jaen, containing an inconsiderable academy, several churches and convents, and upwards of 12000 inhabitants.

Ubeda, a small walled town, containing 6000 inhabitants, 2 leagues north of Baeza, in a territory abounding in corn, wine, oil, and figs. In this place are 11 parishes, 11 convents, 4 hospitals, and other public buildings, with manufactures of woollen cloths and pottery.

Cazlona, formerly a considerable, at present a small town, where are the remains of an aqueduct, about 5 leagues north of Jaen, on the right hand of the Guadalquivir.

Andujar, or *Anduxar*, a decayed town, in a highly cultivated plain, containing 5 parish churches, 10 convents, and 3500 inhabitants. It was taken from the Moors by Ferdinand III. A. D. 1225. The castle appears to be very ancient. The land in its vicinity is rich, and the plantations of olives are extensive. This walled town, partly built out of the ruins of Illurgis, is situate on a rising ground bathed by the Guadalquivir, 11 leagues east north-east of Cordova. About half a league from the town, there are very productive lead-mines. To the northward is a chain of rugged hills that divides Andalousia from Castile, rendered famous by the wars of the Castilians and Mahometans, but perhaps better known by being the scene where Cervantes has placed the most

most entertaining adventures of his hero. The colony of *La Carolina* was planted about 50 years ago, in Sierra Morena, an extensive tract of woody mountainous country north-east of Andujar. The inhabitants are a mixture of Germans, French, and Spaniards. The cognominal capital is uniformly and regularly built, on a fine hill that commands the prospect of the whole settlement and adjacent country. The soil in those parts is chiefly sand. This colony enjoys singular immunities. About 20 or 30 acres are allotted to each family, under the obligation of remaining 10 years on the spot, during which period they are subject to no taxes. At the expiration of this term, the land is consigned to them in fee, for a small quit rent. In 1787, the population amounted to 7868 persons; but, situate at a distance from the sea and from any great city, it must decline. Four leagues from Carolina lies the pass of the Sierra, extremely rugged and of difficult access. A few miles northward is a new village called *Navas de Tolosa*, from the old name of the defile in the neighbouring mountains, where Alfonso IX. king of Castile, A. D. 1212, cut to pieces the army of Mahomet king of Morocco. *La Mancha* is the south part of an extensive plain, yielding corn and vines. It contains a number of large and meanly built villages, but few single houses.

Alcaudite, a town of little note, built of black marble, containing a handsome seat, several convents, &c. in a hilly tract, 6 or 8 leagues W. of Jaen, near the confines of Cordova.

7. GRANADA.

Granada, sometimes called Upper Andalousia, of an irregular figure, is bounded on the west and north by Andalousia, on the north-east by Murcia, on the east and south by Murcia and the Mediterranean; lying between 36° 20′ and 38° north latitude, and between 5° 5′ and 1° 30′ west longitude from Greenwich; being 75 leagues from west to east, and 8-18-35 from north to south, containing 600,000 inhabitants.

Beautifully diversified with high mountains, extensive plains and pleasant vallies, this province attracted the Moors, who took possession of it soon after the battle of Xeres. During several centuries posterior to their establishment in Spain, Granada was governed by viceroys of the caliphs, and underwent no material revolution. The first prince who asserted his independence was Mahomet Alamir, governor of Aljone, who began to reign A. D. 1236. A succession of Moorish kings reigned in Granada till the year 1492, when Ferdinand of Castile besieged and took the capital, and put an end to the Moorish empire which had subsisted 780 years. Under the government of its own kings, Granada was a compact, populous, and opulent kingdom. Its agriculture was brought to great perfection; its revenues were immense; and gold and silver were in greater abundance there than in any other country in Europe. The number of towns, castles, fortresses, palaces, and public edifices, almost exceeds the belief of any person who sees its present condition. The ruins, however, scattered over its hills and vallies, may still convey some idea of its former population and magnificence. "I have heard," says an Arabian writer who flourished in the year 1378, "the names of above 300 hamlets in the environs of the capital; "within sight of the city walls may be reckoned 50 colleges and places "of worship, and upwards of 300 water-mills." But the amazing fertility and riches of this territory passed away with its old inhabitants, and poverty, indolence, and almost every species of misery, have succeeded.

Several small streams have their sources in the interior parts of Granada, and proceed in various directions to the sea. The Xenil originates eastward of Granada, receives the Darro under the walls of that city, and runs west north-west to the Guadalquivir into which it falls a few leagues north-west of Ecija. A chain of mountains called Alpujarras, partially cultivated by the Moors, extends from west to east through the province.

Cities,

Cities, &c.—Granada, or Agarnata, the capital, and an archbishop's see, is pleasantly situate on two small hills, at the extremity of a valley terminated by a steep mountain call Sierra Nevada, near the junction of the Darro and Xenil, 48 leagues north-east of Gibraltar. It contains 23 parishes, 40 convents, 9 hospitals, 2 parishes, an university founded A. D. 1531, an amphitheatre reckoned one of the best in Spain, an academy for painting, sculpture, and architecture, a tribunal of inquisition, and 50,000 inhabitants. The walls and gates are demolished, and most of the streets are narrow and dirty. The Rambla is a broad long street leading to the Alameda, or great walk. The market-place is spacious. The Alhambra, formerly the residence of the Moorish kings, and the Torre Vermejo, crown the double summit of the hill between the rivers; the other hill north of the Douro is covered with the Albaycin and Alcaçaba; the remainder of the city stretches along the skirts of the plain in a semicircular form. The external appearance of the Alhambra is inelegant; but within it is astonishingly grand and highly ornamented. In the time of the Moors Granada was the seat of elegance and luxury; but all its glory disappeared with its former inhabitants. Its buildings are decayed, its aqueducts crumbled into dust, its wood destroyed, its territory depopulated, and its trade lost.

Santa-Fe, a little town, containing 2000 inhabitants, to the westward of Granada, built by Ferdinand while he besieged that city, in a fertile tract watered by the Xenil.

Loxa, by Abulfeda called Luschah, an irregularly built town, containing 8000 inhabitants, partly on the declivity and partly at the foot of a hill near the Xenil, about nine leagues below the capital. In this place are three parishes, four convents, four hospitals, a bridge, and the ruins of a castle. The road to Granada lies through a fertile and well watered tract. The environs of Loxa yield excellent fruits.

Alhama,

Alhama, a town with a neat suburb, containing about 2000 inhabitants, five or six leagues south of Loxa, in a valley between steep mountains, noted also for its warm baths, near the source of a cognominal stream, also called Rio-Frilo.

Antequera, a considerable town, built on several small eminences, defended by a castle, at the extremity of a plain, and noted for its medicinal springs, seven leagues north of Malaga, and 21 west south-west of Granada. The streets are long and broad, and several of the houses are handsome. The number of its inhabitants is about 19,600. The territory southward is mountainous, and is covered with vineyards which produce the wine known in England by the name of Mountain. Thence north-west to Pedrera, the country is champaign and pleasant, with some lakes between the road and the mountains.

Ronda, a small, indifferently built, and populous town, containing four parishes, and 11000 inhabitants, on a rock bathed by the Rio-Verde, almost environed by steep mountains, near the south-west border of the province, ten leagues north of Gibraltar. The old and new towns are joined by a bridge over a frightful abyss. The environs of Ronda abound in fruits and medicinal plants, and the neighbouring vallies in iron ore.

Marbella, a town and fort, containing upwards of 3000 inhabitants, on the sea coast, with a harbour formed by an elevated promontory, midway nearly between Gibraltar and Malaga, about 10 leagues from each.

Istepona and Maniba, two small towns near the confines of Andalousia, between Marbella and Gibraltar, inhabited chiefly by fishermen.—The territory in which they are situate yields abundance of wine.

Malaga, an ancient indifferently built town, and bishop's see, containing six parishes, 25 convents, nine hospitals, and 41,500 inhabitants, in a valley on the land side, bounded by high and rugged mountains, at the mouth of the small river Guadalquivirejo, commanded by a Moorish castle on the sharp point of a rock. The streets are narrow, the houses high,

high, some of the squares of a tolerable size, and harbour commodious. The cathedral, founded by Philip II. is a stupendous pile, 360 feet long, 180 broad, and 135 in height. Wine and raisins are the principal articles of export. In the bay to the south-west there is anchorage in 3 to 15 fathoms. A mole and rocks nearly south of the town serve to break off the sea from ships that go within it; and there are watch towers to the west of the river all the way to Gibraltar, and eastward to Old Malaga. The country around is wild and broken, yet every spot capable of cultivation is improved. Two leagues west of the town is a cavern containing large masses of stalactites below a bed of limestone, 100 paces from the sea, and 500 from a ridge of calcareous hills. The road north-east to the delightful valley of Granada, lies across craggy mountains, and is dangerous to travellers on account of banditti. Opposite nearly to Malaga, A. D. 1704, an engagement happened between the Spanish and English fleets.

Cartama, an ancient and small town, several leagues westward of Malaga, at the foot of a mountain. Thirty feet below the surface of the earth, an ancient temple, statues, medals, and inscriptions, with a large column of red marble, were discovered in this place A. D. 1750. On a neighbouring hill are the ruins of a Moorish castle.

Monda, an inconsiderable place, on a declivity, about four leagues west of Cartama, where Julius Cæsar defeated Pompey. It is separated from the sea coast by a ridge of hills.

Velez-Malaga, a mean town, in a plain environed by hills, with a castle on an eminence and a small bay before it, a few leagues north-east of Malaga, at some distance from the sea coast. This place is noted for its excellent raisins. Near the harbour is a building called Torre de Velez.

Torox, a town and fort, containing about 2000 inhabitants, ten leagues east of Malaga, not far from the sea coast, among steep rocks.

Almugnezar, or Almuneçar, a small town, containing 1500 inhabitants, with a tolerable harbour, defended by a castle, 15 leagues east of Malaga.

Malaga. The intervening coast is clean; and a bay extends eastward about three leagues to the next sea-port.

Salobregna, an inconsiderable place, several leagues east of Almugnezar, with a strong castle on a high rock, an indifferent harbour, and little trade. Opposite to it there is a small island, on every side of which is good anchorage. It is 2 leagues west of Motril.

Motril is a little town, with irregular streets, at the foot of a hill, a mile from the sea coast, to the eastward of Salobregna, and nearly in the meridian of Granada. Wine and fruits are thence exported.

Adra, an inconsiderable sea-port town, with a low plain coast on either hand, about 16 leagues south south-east of Granada, 8 south-west of Almeria, and 3 east of Cattel Ferro.

Almeria, by Abulfeda called Al-Marijah, a town and bishop's see, containing four parishes and several convents, at the mouth of a river, several leagues north-west of Cape Gates, in a level tract at the bottom of a deep and spacious bay, near the mountains of Alpujarras, which are of considerable extent and elevation, but of difficult access. The intervening vallies are inhabited by a race of Moorish extraction. Under the dominion of the Moors, Almeria was fortified, and defended by a strong castle and a numerous garrison; but there are now few vestiges of its former importance. Five or six leagues south south-east, Cape Gates forms the eastern limit of the bay of Almeria. Within the bay, and off the creeks on the west side of the Cape, there is anchorage.

Moxacar and Vera, are two towns near the sea coast, 12 or 14 leagues north-east of Almeria. The former, indifferently built on an eminence, a mile from the coast, in a barren tract, contains about 2000 inhabitants. The latter is situate in a plain, at the foot of a hill, near the mouth of the Almanzor, and its population exceeds that of Moxacar. Betwixt Moxacar and Guadix, there is a mountain of white marble, a league in circuit and 2000 feet in height, without any mixture of stones or earth.

It

It is flat on the summit, and its front towards the north-west is above 1000 feet high and nearly perpendicular.

Guadix, a town and bishop's see, containing five parishes, seven convents, and 8000 inhabitants, on a declivity eight leagues eastward of Granada, on an elevated site, in a valley encompassed on all sides by high, bleak, and irregular clay hills, washed into broken masses resembling spires, towers, and mishapen rocks. Whole villages are dug in those hills; but there is little appearance of cultivation in that district. Guadix is noted for the manufacture of pocket knives. The neighbouring district produces grain, wine, and good pastures, but no oranges nor olives.

Guescar, or Huesca, a little neat town, in a plain, on the river Guardadar, 25 leagues north-east of Granada, near the border of Murcia.—The adjacent territory yields grain, wine, flax, and excellent fruits.

Baza, by Abulfeda called Bagah, containing three parishes, six convents, and 6500 inhabitants, on the river Guadalentin, between Guadix and Guescar, stormed by Ferdinand A. D. 1489. Below the town is an extensive and well watered plain bounded by high mountains. The road thence south-west to Guadix is rough, hilly, and very disagreeable.

Purchena, a small tolerably built town with a castle, on the river Almanzor, in a fruitful tract, about ten leagues south south-east of Baza.

8. MURCIA.

Murcia, a dry and mountainous province, is bounded on the west by Granada and Andalousia, on the north by New Castile, on the east by Valencia, on the south by the ocean; lying between 37° 12′ and 39° 20′ N. latitude, and between 2° 30′ and 0° 40′ W. longitude from Greenwich; being 110--150 miles from north to south, and 60--90 from west to east. The western division of this province is intersected by ridges of hills: to the eastward are level and well cultivated plains.

The principal rivers are Lorca, Segura, and Xucar. The former, composed of several streams which originate in Granada, runs north-east by Lorca, and falls into the Segura above Murcia. The Segura descends from the mountains in the northern part of Granada, and flows south-east to Murcia, and thence eastward to the sea. The Xucar has its sources in New Castile, and traverses the northern corner of the province.—Though hilly and thinly inhabited, Murcia abounds in silk and excellent fruits, and contains 600,000 inhabitants.

Cities.—*Murcia*, the capital, is an indifferently built town, containing 11 parishes, a cathedral with a large square tower, 14 convents, 3 hospitals, a tribunal of inquisition, a castle on an eminence, and 38000 inhabitants, nine leagues north of Carthagena, on the Segura a muddy stream by which it is divided into two unequal parts. The valley in which it lies, is rich, well watered, well cultivated, and populous. It communicates on the east by a small opening with the valley of Orihuela. The road south to Carthagena traverses a chain of rugged mountains, and an extensive plain without a tree. To the north-west of Murcia are hills, beyond which high mountains bound the view.

Carthagena, a considerable fortified, town on a declivity, containing 23,000 inhabitants, seven leagues west of Cape Palos the south-east extremity of Spain. It was founded by Asdrubal, destroyed by the Goths, and rebuilt by Philip II. Its streets are wide, and houses commodious with flat roofs. On the summit of a hill commanding the city is a castle now in decay; but on the adjacent heights are raised considerable works to defend the harbour, with the arsenals and dock-yard. North-east of the town is an extensive and fertile, but indifferently cultivated, valley. The island of Escombrera blocks up the entrance of the harbour, and secures it from the violence of winds and waves. High bare mountains rise very steep from the water edge on the east and west. On the north a narrow low ridge of hills shuts out the view of the inland country. On the west side of the bay, a large fleet may lie in perfect safety. Several leagues

leagues westward is a place named Almazaron, where is gathered a fine red earth called Almagra, used for polishing looking glasses, and is mixed with tobacco to give it that colour and softness which consitutes the principal merit of Spanish snuff. There is good anchorage in the road of Almazaron, from twelve to nine fathoms water, and less nearer the shore.

Lorca, a considerable, ancient, but decayed town, containing 9 parishes and 10 convents, on a cognominal river, 12 leagues westward of Carthagena. Its saltpetre works are extensive. In its vicinity, olive and mulberry trees are in abundance; the soil is rich and strong, but badly cultivated. To the westward the road lies through steep and barren hills, the resort of wolves. The plain between Lorca and Carthagena is partly cultivated; but two-thirds of it are a desert, without a bush, tree, or house, owing to the want of water. The mountains, on the confines of the province, contain lead, copper, and other ores.

Archena, an inconsiderable place, noted only for its hot springs, a few leagues north-west of Murcia. That part of the province which extends southward to Carthagena and Cape de Gates, appears to have undergone a change by the action of fire.

Villena, a small town, containing two parishes, some manufactures, and 6000 inhabitants, in a fertile and well watered plain at the foot of a chain of hills 12 leagues north north-west of Alicant, and 18 north of Murcia. On an adjoining mountain is an old castle. Near the town there is a salt marsh, or lake, two leagues in circuit, and, at the distance of four leagues, a hill composed of rock-salt. The road southward to the rich valley of Montfort passes through a rude uncultivated country; and Montfort is four leagues north-west of Alicant.

Chinchilla, an indifferently built town, with narrow streets, containing 4000 inhabitants, on an eminence, about 27 leagues north north-west of Murcia. Its environs are fruitful in a rainy season.

Almansa, a town containing about 5000 inhabitants, in a plain, 10 leagues east north-east of Chinchilla, and memorable for a victory gained in its vicinity by the Duke of Berwick over the allied army, A. D. 1707. Its environs produce grain, wine, and saffron.

9. VALENCIA.

Valencia, a province with the title of a kingdom, extends along the east coast of Spain, bounded on the west by Murcia and New Castile, on the north by Aragon and Catalonia, on the south by Murcia; lying between 37° 50′ and 40° 55′ N. latitude, and between 1° 10′ W. and 0° 30′ E. longitude from Greenwich; being 160—200 miles from north to south, and 20—65 in breadth; containing 7,800 square miles, divided into twelve governments.

Of all the provinces in Spain, this, perhaps, is the most salubrious, agreeable, and populous. The climate is mild, the air pure, the sky serene, and the changes of the atmosphere are almost imperceptible. The plains and vallies are fertile, well watered, and cultivated; the mountains yield excellent pastures, and contain mines of cinnabar, iron, alum, &c. The creeks, bays, and promontories along the coast are highly picturesque. It is said to contain 7 boroughs, 64 market-towns, 1000 villages, and 716,000 inhabitants. Wine, rice, oil, silk, and fruits, are the chief articles of trade.

Spanish geographers reckon 35 rivers in this province, most of which are of little note, and dry in summer. Their course, in general, is from west to east. The most considerable are the three following, viz. the *Guadalaviar*, that originates in Aragon west of Albarrazin, and thence runs south south-east to the Mediterranean, into which it falls below the capital. The *Xucar*, which descends from a group of mountains that

covers

covers the sources of the Tajo, a few leagues south-west of Albarrazin; and, after a south and south-east course of 60 leagues, loses itself in the sea south of the capital, and near Cullera. The *Segura*, whose springs are in Sierra de Segura, a ridge of mountains in the northern part of Granada. In a very circuitous course it proceeds eastward, and empties itself into the sea below Orihuela.

Cities, &c.—*Valencia*, the capital, and an archbishop's see, is an ancient, large, irregularly built city, containing 14 parishes, 45 convents, and upwards of 80,000 inhabitants; pleasantly situate in a fertile bottom, on the river Guadalaviar, about a mile above its port, which is only an open road, the mole having been long ago swept away. Most of the streets are narrow, crooked, and not paved; the houses are ill built; the churches are loaded with tawdry and barbarous ornaments. The cathedral is a large magnificent Gothic building, with a steeple 130 feet high; the university, founded in 1411, has at present 1500 students; the palaces of Dosaguas and Jura Real, the monastery of St Jerom, the Exchange and Arsenal, merit the notice of a traveller. Its lofty walls and towers are almost demolished. It has an academy of fine arts, established A. D. 1768, a thriving silk manufacture, and considerable trade. This city was conquered by the Moors under Abdallah Ciz, and taken from them by James I. king of Aragon, A. D. 1238. It was reduced by the Earl of Peterborough in 1705, and lost again two years afterwards. There are several monuments of antiquity. The road is dangerous, and shipwrecks are frequent. There is anchorage near the mouth of the river in 5—10 fathoms. To the south of Valencia Albufera lake extends about four leagues in length, and has a communication with the sea.

Alzira, a considerable town, with some trade in silk, on the deep and muddy Xucar, about four leagues from the sea-coast. To the northward is a large tract of fruitful land, and to the south-west is a mountainous territory, in the vallies of which rice is cultivated.

Cullera,

Cullera, a town containing 3000 inhabitants, on the sea-coast and north bank of the Xucar, about eight leagues south south-east of Valencia.

Carcaxente, a town containing a silk factory, two convents, and 4000 inhabitants, on the right hand of the Xucar, about five leagues inland from Cullera, and three north north-east of Xativa.

Gandia, a walled town, consisting of 1000 houses, half a league from the sea-coast, between the mouth of the Xucar and Cape Martin, on the rivulet Alcoi, 40 miles south south-east of the capital, in a fertile, delightful, and populous territory, almost surrounded by a ridge of low hills. All is cultivated, except a low and marshy tract towards the coast which is often inundated. The Ducal palace is a magnificent edifice.

Olive, a small sea-port, between Gandia and Denia. Before it there is anchorage in seven and eight fathoms; but all this coast is exposed to Levant winds, though Denia affords shelter for small vessels.

Denia, a small town, containing 1500 inhabitants, between Gandia and Cape Martin, near the foot of Mount Mongon, on a declivity stretching to the sea, noted for a tower of great height and a strong castle, with a convenient harbour. The Moorish kings resided here from A. D. 1015 to 1244.

Xativa, formerly Sateba, one of the finest towns in Spain, and a strong fortress, was demolished by Philip V. A. D. 1707. It was rebuilt under the name of San Felipe; and Pope Alexander VI. was a native of it. At present, it is an inconsiderable inland town 10 leagues southward of Valencia. Thence south-west are bleak mountains and narrow winding vallies, olive-plantations, pine forests, and chalky hills.

Otiniente, a considerable, manufacturing town, containing upwards of 5000 inhabitants, on a gentle eminence, several leagues south south-west of Xativa. The adjacent territory is fertile.

Alcoy, a well built town, containing 3 convents, an hospital, woollen and paper manufactures, and 9000 inhabitants, on a cognominal rivulet, five

five or six leagues south of Xativa, in a hilly tract. In that neighbourhood are mines of iron, and a noted fountain called Barchel.

Alicant, a maritime, trading town, containing 17,000 inhabitants, in the middle of a narrow neck of land that runs out a considerable way into the sea, 28 leagues south of Valencia. The streets are narrow and ill paved; but the houses are solidly built, with flat roofs. The gardens lie along the shore, surrounded on three sides by lofty hills, whose declivities are studded with villages, villas, farms, and plantations of all kinds of fruit trees. Here the fine Alicant and Tent wines are made. The upper parts of the mountains are bare and little susceptible of cultivation. Its commodious harbour is defended by strong bastions, and is sufficiently large to receive a fleet of ships. The castle, which stands on a high rock, was reckoned impregnable; however it was taken by the English in 1706, and by the French and Spaniards after a siege of almost two years, and then part of the rock on which it stood was blown up. Beyond the town is a plain some leagues in circuit, called Huertas, extremely fertile, and finely cultivated. This plain, or vale, is watered from a reservoir called Al Pantano, formed by a high wall between two mountains, five leagues from Alicant, and yields two and sometimes three crops yearly. Inland there is a cavern noted for its petrifactions, resembling those in Antiparos. Nine miles south of the town is the barren island of S. Polo, where a colony of Genoese was settled. Behind Cape Polo, there is a large salt marsh called Mara, that has no visible communication with the sea. Along the coast are several towers, where a watch is kept against pirates.

Elche, a tolerably built town, containing 12000 inhabitants, pleasantly situate, four or five leagues south-west of Alicant, on the skirts of a forest of palms and olives. Its environs abound in wine and fruit.

Orihuela, a rich, populous, flourishing walled town, containing many religious houses, and 12,000 inhabitants, in a fertile valley watered by the Segura, four leagues below Murcia, near the south extremity of the province,

province, at the foot of a ridge of bare rocks, and defended by an old castle. Its university was founded A. D. 1550. To the south-east is Lago di Origuela, a small lake near the sea-coast; and to the south-west lies the celebrated valley of Murcia, fertile, agreeable, and bounded by mountains. *Guardamar*, an inconsiderable sea-port, at the mouth of the Segura, with a good harbour.

Murviedro, a town containing 4000 inhabitants, who are strangers to manufactures, and who depend for subsistence on the product of the soil. It is situate at the foot of a hill of black marble with white veins, near the mouth of the river Palencia, four leagues north north-east of Valencia. The town, destroyed by Hannibal, stood on the summit of the hill, where the Romans had a fort, and where the Saracens afterwards erected a castle. Half way up the rocks are the ruins of a theatre, about 82 yards in diameter. The summit of the hill is half a mile in length, and not one-tenth as wide, covered with ruins and Moorish bulwarks. Some Roman arches, mutilated statues, and vestiges of the floor of a temple, are all the antiquities to be found. The fortifications divide the hill into several courts, with double and triple walls, erected on huge masses of rock laid in regular courses by the Romans. From the top of the mountain there is an extensive prospect of a rich country, diversified with villages, convents, cultivated fields, mulberry plantations, &c. To the northward lies the valley of Almenara, bounded by lofty hills, and adorned with six neat towns rising out of the bosom of a forest.

Burriana and Villa-Real, are two maritime towns, lying between Murviedro and Castellon; the former containing 4000, and the latter upwards of 5000 inhabitants. The environs of each are fertile in grain, olives, and vines.

Segorbe, an old well built town and bishop's see, containing upwards of 4000 inhabitants, on a declivity between two mountains, in a territory watered by the Palencia, or Murviedro, and abounding in corn, wine, and

and fruit, with quarries of fine marble, five leagues north-west of Murviedro.

Castellon, a considerable well built town, containing about 10,000 inhabitants, near the sea-coast, 14 leagues north-east of Valencia. In its vicinity is the delightful valley of Margal, and the famous aqueduct of Almasora constructed A. D. 1240. In approaching the valley of Catalonia, the country becomes stony and rough, but is diversified with fertile spots, and bounded on the one hand by rocky hills, and on the other by numberless creeks, bays, and bold promontories. Green woody vallies variegate the scene.

Peniscola, a small but strong place, on a high peninsulated promontory called Cape Forbat, five leagues north north-east of Cape Cropesa. There is a good road in the bay, near the town, with ten fathoms water. The neighbouring district is noted for a strong red wine which it yields in abundance, but often suffers much for want of water.

Morella, a small inland walled town, pillaged by Philip V. A. D. 1705, in the northern corner of the province, surrounded by rocks and mountains, containing about 3400 inhabitants.

No towns of note are situated near the west border of Valencia; but towards the south-west boundary the country is full of ruined towers, the hills are broken and irregular, and the landscape every where bleak and romantic.

10. NEW CASTILE.

New Castile, sometimes called the kingdom of Toledo, the principal province of Spain, is bounded on the north by a chain of mountains which separates it from Old Castile, on the east by Sierra Picochera and Sierra Albaraçin, which form a ridge along the confines of Aragon and Valencia, on the south by Murcia and Andalousia, on the west by Estremadura; lying between 38° 25′ and 41° 20′ north latitude, and be-

tween 5° 10′ and 1° 0′ west longitude; being 50-80 leagues from north to south, and 60-80 from west to east; containing 22,000 square miles, and 1,200,000 inhabitants. The Guadalquivir, the Guadiana, the Tajo, Xucar, and Segura, with many small streams, descend from the elevated ridge in the eastern parts of the province. Some extensive tracts yield abundance of corn and wine, and others are rich in mines.

This province is divided into three districts, viz. La Mancha, La Sierra, and Algarria.

1. La Sierra, the north-east part of the province, watered by the Xucar, the Cabriel, and other streams, contains the following places of note.

Cuenza, the birth-place of several eminent men, is an irregularly built town and bishop's see, containing 13 convents, besides churches and other public buildings, and about 6000 inhabitants, on a declivity among the mountains, near the Xucar, 28 leagues south-east of Madrid. Its territory yields grain, honey, and pastures. Sierra Cuenza abounds in natural curiosities. The pool, or laguna of Una, north of the town, is noted for a floating island; elsewhere are the pits or wells of Ayron, of great depth---hot baths---various sorts of petrifactions, &c.

Kuete, or Guete, a town containing several religious houses and 2000 inhabitants, on a rivulet, 12 leagues north-west of Cuenza, in a territory yielding abundance of saffron.

Alarcon, a mean town, built A. D. 1178, soon after razed by the Moors, and repaired by Alfonzo IX., on the Xucar, 14 leagues south of Cuenza.

2. *La Mancha*, the southern division, includes almost the whole of the province between the Tajo and Andalousia. It is an immense plain, intersected by ridges of low hills and rocks, and diversified with fruitful tracts. Scarcely a tree is to be seen from Sierra Morena to Toledo. There are a few single houses, and hardly a venta for the scene of any adventure of Don Quixote. This open country, however, contains a considerable

considerable number of towns and large villages, and is partially cultivated. From the mines of mercury are extracted yearly 18000 quintals, and some of them exceed 1400 feet in depth.

Towns, &c. in the northern districts of La Mancha.—*Ocana*, an indifferently built town, containing 4 parish churches, 10 convents, and 4500 inhabitants, 2 leagues south-east of Aranjuez. The intermediate sandy tract yields corn, with some vines and olives.

Ucles, a mean town, containing about 1500 inhabitants, on the rivulet Bedija, 10 leagues east of Ocana. In that neighbourhood were fought several battles between the Spaniards and Moors. Upon a rock that commands the town, there is a convent of the order of Santiago.

La Guardia, situate in an elevated and salubrious tract, several leagues south-east of Ocana, contains about 3000 inhabitants. It was formerly a place of strength, but now appears to be verging to decay, and is noted only for a manufacture of saltpetre.

Orgaz, a town of little note, with paved streets, 4 leagues south of Toledo.

Consuegra, a town containing 2 parish churches, 2 convents, and 6000 inhabitants, 10 leagues south-east of Toledo, and as far north north-east of Calatrava, at the foot of a hill on which stands a fort.

Madrilejos, a town containing about 5000 inhabitants, in a fertile tract, a few miles east of Consuegra.

El-Tobosa, a town celebrated in the romance of Don Quixote, containing a parish church, a convent, some windmills, and upwards of 3000 inhabitants, not far distant from Madrilejos.

S. Clemente, an ill-built town, containing three parish churches, four convents, and an hospital, south-east of Tolbosa, in a fruitful plain, yielding grain, wine, and saffron.

Tarazona, a trading town, containing about 6000 inhabitants, in a plain south-east of Clemente. The adjacent district, partially cultivated, yields grain, wine, oil, and pastures.

Iniesta, or Hiniesta, sometimes called Egelesta, a manufacturing town with a parish church, a convent, and an hospital, east of Tarazona, near the confines of Murcia and Valencia.

Utiel, a town containing upwards of 3000 inhabitants, north-east of Iniesta, and 10 leagues south-east of Cuenza, in a fertile and well watered territory near the border of Valencia.

Requena, a regular and tolerably built manufacturing town, containing three churches, four convents, and about 5000 inhabitants, on the rivulet Oliana, between Utiel and the border of Valencia.

Towns in the southern districts of La Mancha.—*Alcaraz*, a small town on the declivity of a hill, at whose base is the source of the Guadarmena, in the south-east corner of New Castile. It contains three parish churches, six convents, and about 3000 inhabitants. The climate is rather cold and insalubrious, and the most fertile part of the district is a plain that yields some grain, wine, and herbs.

Riopara, a village four leagues south of Alcaraz, and noted for a productive mine of calamine in its neighbourhood.

Robledo, a tolerably built town, containing a church, four convents, and 6000 inhabitants, in a healthy plain, four leagues north of Alcaraz. The hills in that part of the country are clothed with trees and good pastures.

Villa Nueva de la Fuente, and Villa Nueva de los Infantes, are situate west of Alcaraz. The latter, well built, in a plain, contains a parish church, four convents, and about 6000 inhabitants.

El-Viso, a well built town, containing a parish church, a convent, a seat of the Marquis D'El-Viso, and 3500 inhabitants, about 20 leagues south-west of Alcaraz, and 13 south south-east of Ciudad Real, in a fertile plain producing corn, wine, and fruits.

Val de Penas, an indifferently built town, containing upwards of 6000 inhabitants, and noted for its excellent wine, four leagues north of El-Viso. Its environs are well cultivated.

Calatrava,

Calatrava, a small place which gives name to an order of knights, in a plain 16 leagues south of Toledo, and not far below the eyes of the Guadiana. In its neighbourhood there is a mine of quicksiver. The sources of the Guadiana are several lagunas. The river, composed of the streams which flow from those pools, at first runs north-west, but soon disappears in a meadow near *Alcazan-S.-Juan*. At some distance westward it emerges in other pools, or a marshy tract, covered with aquatic herbs, and called Las Ojos de Guadiana, the eyes of the Guadiana. Below that marsh the river is about 100 feet in breadth.

Ciudad Real, the capital of La Mancha, formerly rich and populous, now a decayed town of considerable extent, containing three churches, nine convents, five hospitals, and 8000 inhabitants, in the middle of a fertile plain, 20 leagues south of Toledo, and one from the left bank of the Guadiana. Its environs yield excellent wine, and are frequently inundated by the river.

Almagro, a town containing an university founded A. D. 1552, two churches, and nine convents, in a level and fertile spot, noted for its medicinal springs, eight leagues north-east of Almodovar, and three south-east of Ciudad Real.

Almodovar del Campo, a tolerably built town, without trade or manufacture, in a delicious valley at the foot of Sierra Morena, 11 leagues south south-west of Ciudad Real, and 27 south of Toledo. Its environs yield grain, wine, and olives ; and the hills are clothed with pastures.

Almaden, a small tolerably built town, noted for its cinnabar mine, ten leagues north-west of Almodovar. This mine was explored by the Romans, who called the place where it was found Sisapo. Its present name, of Moorish origin, denotes a magazine or mine. *Campo D'Alcocer* is an extensive plain in the south-west corner of the province.

3. *Algarria*, or Alcaria, the northern and most distinguished part of the province, contains the following places.

Cities,

Cities, &c.—Madrid, formerly Magerit and Magellit, the metropolis of Spain, and the royal residence, before the reign of Henry IV. was an insignificant place, with a small castle which served as a royal hunting seat. It is now a large, irregularly built, open city, containing fifteen parishes, sixteen colleges, four academies, eighteen hospitals, five prisons, fifteen gates built of granite, sixty-six convents, and 130,000 inhabitants, situate on several eminences bathed by the rivulet Manzanares, in a sandy, dry, and badly cultivated plain, bounded on all sides by mountains. The new houses are of granite and brick, and the old ones of wood. The public buildings most worthy of notice are—an academy founded by Philip IV.---the Plaza Major, a square 430 by 334 feet, finished A. D. 1612,---the palace of the Duke de Medina Celi,---the amphitheatre for bull fights, built in 1746, and 400 paces in circuit,---a magnificent bridge by Philip II. and another by Philip V.---the royal palace on the brow of an hill, a magnificent structure consisting of three courts, commanding a fine prospect. Some of the streets are well paved, with broad foot paths for passengers; and the numerous towers, or steeples, greatly contribute to the embellishment of the city. *Casa-del-Campo*, is a house of pleasure, near the city, with fine gardens and pleasant walks. To the south the country is bleak and the roads bad. Scarce a tree, village, or garden is to be seen. In the environs there are many ravines and inequalities, though, viewed from a lofty tower, the surface appears level and uniform, without the interruption of hills and vallies.

Escurial is a superb palace in the form of a gridiron, begun A. D. 1557, by Philip II. in commemoration of his victory at the battle of St Quintin, and finished in 22 years at the expence of six millions of piastres. Situated 22 miles north-west of Madrid, in a corner of a lofty ridge of mountains, and environed by woodlands and green fields, it is a long square 640 by 580 feet, besides 460 for what may be called the handle of the Gridiron; the whole circuit being 2900 Spanish feet. The height of the roof is 60 feet; and at every angle is a square tower 200 feet high. There are 200 windows in the west front, and 366

in

in the east. The church is supported by four rows of pillars, and paved with black marble, containing 40 chapels and 48 altars. The library is said to contain 21,000 volumes, of which 577 are Greek MSS. 67 Hebrew, 1800 Arabic, 1820 Latin and other languages. The mausoleum, or royal burying place, is called the Pantheon, being built on the plan of that temple at Rome, 36 feet diameter, and incrusted with marble. The adjacent country contains specimens of all the mineral substances, stones, earths, and vegetables, which are found in other parts of the kingdom.

St Ildefonse, a royal palace, the Versailles of Spain, with a small town, 16 leagues northward of Madrid, on the border of Old Castile, in a valley of a shallow soil open only to the north. The principal front of the palace, looking to the south, is 530 feet in length. This edifice is patch-work, and no part of the architecture agreeable. There are fine gardens admired for their fountains, with a jet-eau 100 feet in height. Below the town is a manufacture of plate glass.

Alcala de Henares, a considerable, indifferently built, decayed town, containing a famous university, founded or restored by Ximenes, A. D. 1494, three parish churches, four hospitals, many religious houses, and 5000 inhabitants, in a fertile, well cultivated, and agreeable territory, six leagues north-east of Madrid, on the river Henares.

Guadalajara, a town containing 9 parochial churches, 14 convents, several hospitals, and 7000, or, according to other geographers, 4600 inhabitants, on an eminence in a fruitful tract watered by the Henares, 10 leagues north-east of Madrid. This place is noted for its royal manufacture of broad cloth. A league thence is *Val de Noches*, a small village, and the birth-place of Ferdinand Cortez, pleasantly situate near the termination of a valley.

Alcolea, a small place north of Alcala, and north west of Guadalajara. The country round is covered with corn, except some hills shaded by the Ilex and Juniper.

Brihuega,

Brihuega, or *Brioca*, a little trading town, with a castle, on the Tajuna, six leagues north-east of Guadalajara. Here general Stanhope, commander of the English forces, was, A. D. 1710, obliged to surrender himself and his men prisoners of war.

Trillo is a village famous for its mineral waters and baths.

Hita, *Talamanca*, *Uzeda*, *and Buitrago* fortified by nature and art, are places of little note.

Molina de Aragon, a town containing 3000 inhabitants, 25 leagues eastward of Guadalaxara, in the north-east corner of the province, among the mountains, on the right hand of the highway that leads to Saragossa. The neighbouring rocks are composed of marbles of various colours, and not far distant are two iron mines. The river below the town descends through a passage of more than 130 feet between two rocks. Behind a mill near the town is a limestone rock full of petrifications; and two leagues north-west there is a copper mine in a hill, and crystals of different colours. A mile from the town there is a noted mineral spring.

Toledo, anciently a royal seat of the Goths and Moors, is a considerable, ill built, poor, ugly city, and an archbishop's see, containing an university founded A. D. 1475, several palaces and hospitals, 12 chapels, 19 hermitages, and 18,000 inhabitants, on an irregular rocky eminence, almost encompassed by the Tajo, whose channel is confined by steep rocks, south of Madrid, in a dry and barren territory, except along the banks of the river. Its present appearance is mean, the squares being irregular, the streets narrow, crooked, and steep, the houses indifferently built. In the 15th century it is said to have contained 200,000 inhabitants. The cathedral is a large Gothic structure, 400 by 220 feet, and highly decorated. The Alcaçar, or ancient palace, built by Charles V., burnt by the allied army in the beginning of the last century, and lately repaired by the archbishop, stands on a rock on one side of the city. The sword-blades of Toledo have been long in estimation. Its archbishop

shop has a revenue of L. 90,000 a-year. It is kept in existence by the church. The citizens have fled; the Monks remain.

Aranjuez, a small, regularly built town, with a handsome royal palace, pleasantly situate in a large plain watered by the Tajo, and surrounded with barren hills, seven leagues north-east of Toledo, and 10 S. of Madrid. In its vicinity are fine gardens, avenues, fountains, cascades, and shady groves. There is an amphitheatre of brick, which may contain 5000 persons. Large sums have been expended since 1763, to render this town commodious for those who attend at Court. It is reckoned to contain 8,000 inhabitants while the Court remains there, but at other times it is almost deserted. The country eastward is, for most part, forest land, through which the Tajo winds in a deep shady bed. There is a fine straight road from Aranjuez north to Madrid, on each side planted with trees.

Talavera della Reyna, the birth place of Mariana, is a small, tolerably built town, containing eight parishes, 11 convents, several hospitals, and 6000 inhabitants, fortified with a wall and towers, in a fruitful valley watered by the Tajo, below Toledo, and famous for its earthenware and its silk manufactures.

Escalona, a small, tolerably built, walled town, with several suburbs, on an eminence, defended by a castle, in a fruitful spot watered by the Albercho, north-west of Toledo.

Oropesa, a town containing several religious houses and 2500 inhabitants, in a gently elevated site, 20 leagues west of Toledo. Its streets are narrow and ill paved. The environs abound in good pastures.

Guadalupa, a little, tolerably built town, in a valley watered by a cognominal stream, and abounding in wine and excellent fruits, 25 leagues west south-west of Toledo.

11. OLD CASTILE.

Old Castile, so called from the great number of castles built there in the tenth century, for protection or defence, is less extensive than New Castile, less fertile, and as thinly inhabited. A mountainous canton, near the sources of the Ebro and Pisuerga, was anciently styled Castella Vetula, and its capital Amaya. Liebana and Santillana, small districts of Asturias, originally formed part of Old Castile; but the territory of Burgos was not then included. The province of which we treat, was divided among many proprietors dependent upon the sovereign, who resided at Oviedo, and afterwards at Leon. One of these proprietors, or Counts, extended his government from Santilla to the Mountains of Estremadura. In the beginning of the 11th century, Sancho, king of Navarre and Aragon, added Castile, by marriage, to his dominions. Ferdinand, his second son, reigned in Castile, Leon, Gallicia, and part of Navarre south of the Ebro. He was the first king of Castile, and was surnamed the Great. He extended the eastern frontier of his kingdom to Medina Celi, not far distant from the confines of Aragon, and rendered several neighbouring princes tributaries to him. In the century following, Castile was sometimes a separate and independent state, and sometimes united to other provinces. In the year 1216, an union of the two crowns of Leon and Castile was effected.

Old Castile, a mountainous territory, of a triangular form, is bounded on the west by Leon, on the north by Biscay, on the east by Navarre and Aragon, on the south by New Castile. In the form of a cross, it lies between 39° 50′ and 43° 10′ N. latitude, and between 5° 10′ and 2° 15′ W. longitude from Greenwich, being upwards of 200 miles from north to south along the western, but not exceeding 100 near the eastern boundary. In the upper part its breadth is 70—75, towards the middle 150, and south of the Douro 40—50 miles. Several ridges of mountains

mountains are distinguished by particular names, as Sierra d'Occa, Sierra d'Urbion, Sierra de Cogolles, and Sierra de Piguera. Many streams descend from those mountains, and run south and south-west to augment the Douro, which takes its rise above Soria, and traverses the province from east to west. Several tracts are abundantly fertile, and the plains yield excellent pastures.

Cities, &c.—*Burgos*, the capital, and formerly a royal residence, is a large irregularly built city, and archbishop's see, with narrow, crooked, ill paved streets, and several suburbs, containing 14 parishes, 18 convents, 4 seminaries, 4 hospitals, and about 10,000 inhabitants, situate partly on a declivity and partly on the border of the rapid Alençon, which separates the city from the suburbs, 48 leagues south-west of Bayonne, and 61 north of Madrid. It was formerly defended by a castle that now lies in ruins. The cathedral is a magnificent structure, upwards of 400 feet in length. In the neighbourhood is the abbey De las Huelagas, one of the best endowed in Spain; and two leagues from the town is a famous Benedictine abbey. The road northward to Bayonne at first traverses uncultivated heaths, which might easily be converted into fertile fields,—next a plain surrounded by hills covered with olives,—then a narrow valley among rugged rocks, beyond which to the Ebro are bleak fields, almost without a tree or shrub; and these are succeeded by a territory interspersed with villages. After crossing a steep mountain the road passes through a valley, by Orduna and Miravalles. The whole tract is thinly inhabited. Beyond Burgos southward the country becomes barren, the plain is covered with ratchil, intersected by low detached hills thinly shaded with woods and low bushes. In approaching Burgos from the south, the castle, the old broken walls sloping down from it, and the cathedral in a lower site, form a picturesque scene.

Valladolid, the birth place of many eminent and learned men, and formerly one of the finest cities in Spain, with long and broad streets, elegant squares, lofty houses, and splendid palaces, is now a large, ill

built, scattered town, containing an university composed of seven colleges, and founded A. D. 1346, an academy of sciences instituted A. D. 1752, a magnificent cathedral built by Juan de Herrera, 16 parish churches, 44 convents, 2 seminaries, 3 hospitals, and 18,000 inhabitants; situate near the conflux of the Alençon and Douro, 38½ leagues north of Madrid, in a spacious plain called El-Campo, formerly Campi-Gothorum, where the Moors were defeated by the Christians in the reign of Alfonzo III. The royal palace is in a state of decay; but the grand square, and several public buildings, still exhibit a specimen of its former elegance. The houses, in general, have a mean appearance; and the trade and manufactures are inconsiderable. The country northward is open, populous, and well cultivated. On most of the hills are ruins of towers and of ancient castles.

In the southern part of the province are the following places of some note:

Segovia, an ancient, considerable, manufacturing, walled town, and bishop's see, containing 23 parishes, 24 convents and religious houses, 5 hospitals, and 9000 inhabitants. It is irregularly and meanly built, in a valley, and on the acclivities of the hills by which that valley is bounded, on the Eresma whose course is northward to the Douro, 17 leagues north of Madrid. The streets, in general, are narrow, crooked, and steep. The cathedral is a magnificent Gothic building, 220 feet in length, and 110 in breadth. On a rock stands the Alcazar, or castle, formerly a royal residence, and sometime used as a state prison, now converted into a military academy. The Roman aqueduct is an admirable monument of antiquity. It was carried from one mountain to another, 3000 paces in length, supported by two rows of 76 lofty arches, and where it crosses the valley is upwards of 90 feet in height. The cloth manufacture, for which this city was once famous, has greatly declined. The country northward

northward is open, of a better soil, and more populous than New Castile, consisting of rich corn fields, woodlands, and pasturage, with some sandy tracts and barren hills.

Pedraça de la Sierra, the birth place of Trajan, is an inconsiderable town, about five leagues south-west of Segovia, on the Duraton, a small stream that runs northward to the Douro. In the castle two sons of Francis I. were imprisoned four years.

Avila, an ancient town and bishop's see, containing eight parishes, an university founded A. D. 1445, a cathedral, several convents and hospitals, 1000 houses, many of which are tolerably built on a granite rock. It is environed by a wall with 88 projecting towers, in a fruitful plain watered by the Adija, and surrounded by hills, in the south-west corner of the province, about four leagues west south-west of Pedraça. Some manufactures have been established in this place. The neighbouring district abounds in saffron. A few leagues southward, a chain of hills divides the two Castiles.

Sepulveda, formerly Septempublica, a little decayed town, on an eminence amidst steep rocks, bathed by the Duraton, above Pedraça, and four leagues east south-east of Avila, containing about 1500 inhabitants.

Arevalo, the birth-place of several persons of distinction, and a town containing eight parishes, eight convents, two hospitals, and about 2500 inhabitants; situate on a sandy peninsula at the conflux of the Adaja and Arevalillo, whose united streams run north to the Douro.

Olmedo, a walled decayed town, containing six parish churches, seven convents, one hospital, and about 1500 inhabitants; five leagues north of Arevalo, and 12 north north-west of Segovia, near the Adaja, in a tolerably fertile plain, where two battles were fought A. D. 1445 and 1467. The road thence to Valladolid lies through a flat and sandy tract, diversified with corn-fields, vines, and forests.

Coça,

Coca, a little, walled, ruinous town, on an eminence bathed by the Eresma, in a hilly district, nine leagues north of Segovia. In its castle, a square edifice, Philip William, Prince of Orange, was sometime imprisoned.

Penafiel, the capital of a marquisate, containing four parishes, four convents, two hospitals, and 2500 inhabitants; at the foot of a hill defended by a fort, near the influx of the Duraton into the Douro, seven leagues south-east of Valladolid, in a fertile district noted for its excellent cheese.

In the middle division of the province are the following towns:

Roa, a town containing a castle belonging to the Count of Siruela, and about 2000 inhabitants, 15 leagues east south-east of Valladolid, on the right hand of the Douro. Its environs abound in grain, fruits, and pastures.

Aranda de Douro, a manufacturing town, containing two parish churches, four convents, and 3000 inhabitants, several leagues east of Roa, in a fruitful plain sometimes inundated.

Osma, a mean town and bishop's see, containing an old cathedral and 1500 inhabitants, eight leagues above, i. e. eastward of Aranda, in a hilly tract, watered by the Douro. There is a seminary without the walls of this place. The ruins of the Roman city are still visible.

Siguenza, an ancient walled town and bishop's see, containing a cathedral, an episcopal palace, an university founded by Ximenes A. D. 1471, several convents and hospitals, and 3500 inhabitants, 10 leagues south of Osma, on the declivity of Mount Aticena, near the source of the Henarez, and border of New Castile. The bishop's revenue amounts to 90,000 ducats.

Medina-Celi, once a flourishing town, now a place of little note, containing a ducal palace, several religious houses, an hospital, &c. on a gentle eminence, six leagues north-east of Siguenza, on the Xalon, in the

the south-east corner of the province. N. B. Some geographers reckon La Sierra di Siguenza to be a portion of New Castile.

Soria, a town containing 12 parish churches, seven convents, four hospitals, and 3500 inhabitants, in a hilly and indifferently fertile territory, near the site of ancient Numantia, 12 leagues north-east of Osma, and 10 below the source of the Douro.

Barlenga, the capital of a marquisate, but an inconsiderable place, seven leagues west north-west of Soria, near Sierra de Piguera.

Agreda, a town containing six parish churches, four convents, several handsome edifices, and about 3000 inhabitants, near the site of ancient Augustobriga, on a rivulet, at the foot of Moncaio, not far distant from the confines of Aragon and Navarre.

In the country of *Rioxa*, or N. E. part of the province, are the following places of some note.

Calahorra, the birth place of Quintilian, a considerable town and bishop's see, containing upwards of 4000 inhabitants, on an eminence, in the form of an amphitheatre, at the influx of the Cidaços into the Ebro, 30 leagues eastward of Burgos, near the N. E. extremity of the province. The cathedral is highly ornamented. In that vicinity the Moors were defeated by the Christians A. D. 825.

Alfaro, a town containing several religious houses and 4500 inhabitants, at the foot of a hill, in a fertile tract, near the influx of the Alhama into the Ebro, opposite to Valtierra in Navarre, about 4 leagues below Calahorra.

Arnedo, a town containing a palace, two convents, an hospital, and upwards of 2000 inhabitants, a few leagues S. W. of Calahorra, in a district noted for its excellent wine, on the right hand of the rivulet Cidaços. Two leagues thence are the frequented baths of Arnedillo.

Logrono, a fortified town, containing an episcopal palace, 4 churches, 9 convents, 2 hospitals, and 6000 inhabitants, in a fruitful plain watered by the Ebro, 9 leagues above Calahorra.

Alveda,

Alveda, a village noted only for a victory gained over the Moors by the Spaniards, A. D. 844, on the Hiregua, 11 leagues west of Calahorra. The adjacent district yields wine, oil, and good pasture.

Naxera, or *Najera*, a town containing a Benedictine monastery, and 2500 inhabitants, several leagues west south-west of Logrono, at the foot of a hill, on the Naxerilla a small stream that runs north to the Ebro. Near this town there is a noted plain called Valpierre.

St Domingo, a little walled town, containing a church, an episcopal palace, two convents, an hospital, &c. eight leagues west of Logrono, in a fertile plain, on the rivulet Oja.

Haro, an indifferently built town, a few leagues northward of St Domingo, at the influx of the rivulet Tiron into the Ebro. Its environs abound in grain and fruits, but yield bad wine.

Miranda-del-Ebro, a small, meanly built town, with the ruins of a castle on a hill, noted for its excellent wine, pleasantly situate on the right hand of the Ebro, in a fruitful tract near the border of Biscay, and 15 leagues north of Burgos. At this place the river is not much less than at Tortosa, which is 230 miles lower. Beyond the Ebro is a range of steep not lofty hills, extending east and west, abounding in fractured limestone rocks, with no trees on them, and few shrubs.

Reynosa, an inconsiderable place in a valley, on the high-way that terminates at S. Ander, near the grand canal, and several miles above the source of the Ebro.

Espinosa de los Monteros, a little town in a pleasant valley, watered by the river Trueva, among the mountains of Burgos, about 15 leagues north-west of Miranda, in the north corner of the province.

Aquilar-del-Campo, a small town, containing two parishes, two religious houses, and about 1200 inhabitants, south of Reynosa, in a fruitful tract, on the Pisuerga.

Saldana, a town containing 4000 inhabitants, on a declivity, near the Carrion, four leagues south-west of Aquilar.

Briviesca,

Briviesca, or *Birbiesca*, the capital of a district called Bureva, and an indifferently built town, containing two parish churches, a convent of Jacobines, and 2000 inhabitants, in a fruitful territory, on the river Oca, seven leagues north of Burgos.

Pancorvo, a miserable town, with a small fortress, in a narrow valley, amid limestone hills, between Birbiesca and Mirando-del-Ebro.

12. NAVARRE.

Navarre, so called from *nava* a plain, and *erri* a territory, was originally confined to the tract that lies between the mountainous country and the Ebro; but its limits were gradually enlarged. From the year 718 to 1512 it was governed by kings of different families. In the last mentioned year it was reduced by Ferdinand the Catholic. It comprehends that division of the kingdom which is bounded on the north by the Pyrenees, on the east by Aragon, on the south by Castile, on the west by Biscay; lying between 42° 0′ and 43° 25′ N. lat. and between 2° 15′ and 0° 50′ W. longitude; being 60—90 miles from north to south, and 50—70 from west to east. Near the south and north extremities its breadth is inconsiderable. It contains 3000 square miles, and 180,000 inhabitants. —Many small streams descend from the mountains of Navarre, and lose themselves in the Ebro.

The following are the most considerable rivers, *viz.*—the Ega which originates in Alava, runs eastward to Estella, and thence south to the Ebro,—the Arga, whose course is from north to south, betwixt Estella and Pampeluna, and whose termination is in the Aragon below Peralta,—the Aragon, that descends from the Pyrenees north of Jaca, which it waters in its progress southward, and thence flows west to Sanguessa, and south-west to the Ebro, into which it falls below Calahorra.

This province, whose chief products are pastures, wood, and iron mines, is commonly divided into five merindadas, or bailliages, which receive their names from the five principal towns.

Cities, &c.—Pampeluna, or Pamplona, the capital, founded by Pompey, is a considerable well built, walled, trading town, and bishop's see, defended by a strong citadel, containing an university founded A. D. 1608, four churches, four hospitals, fourteen convents and religious houses, and upwards of 9000 inhabitants, on an eminence bordered by meadows, which stretch out into a large plain watered by the Arga, 16 leagues south of Bayonne. An university was founded here, A. D. 1608.

Tafalla, a small neat town with an old palace in ruins, containing two parish churches, three convents, and about 3000 inhabitants, without manufactures and every appearance of industry, in a valley six leagues south of the capital, on the Cidazo a rivulet that soon loses itself in the Aragon. There is good wine in its neighbourhood.

Olita, formerly a residence of the kings of Navarre, now a decayed town with two parish churches, and two convents, in a fertile tract watered by the Cidazo. The palace now lies in ruins.

Tudela, a considerable well built town with narrow streets, containing ten parishes, nine convents, and 8000 inhabitants, delightfully situate in a fruitful tract on the banks of the Ebro, 14 leagues above Zaragossa, and 16 south of Pampeluna, near the south extremity of the province. The tower of the cathedral is of brick, and of great height. The canal of Tudela, begun by Charles V. is not yet completed. This town has few manufactures, but is noted for its excellent wine and wool.

Estella, an handsome manufacturing town, with an university in its neighbourhood founded, A. D. 1565. It contains several churches and convents, and 4500 inhabitants, defended by a castle, in a plain watered by the Ega and Ureder, six leagues south-west of Pampeluna. The environs of this place are agreeable and fertile.

Milagro,

Milagro, a little town on the left hand of the Ebro, between Tudela and Calahorra, below the conflux of the Arga and Aragon.

Viana, a small town, containing about 3000 inhabitants, without trade and manufactures, pleasantly situate near the Ebro, in a fruitful soil, 12 leagues south-west of Pampeluna. The eldest son of the king of Navarre was styled Prince of Viana.

Sanguessa, anciently Iturissa, a town containing three churches, four convents, and 2500 inhabitants, about seven leagues south-east of the capital, on the river Aragon, near the eastern border of the province.—In this place, there are neither manufactures nor trade.

Xavier, a village and the birth place of Xavier the missionary, on the Aragon above Sanguessa.

Peralta, noted for its excellent wine, on the Arga; and *Melida*, on the Aragon; two inconsiderable places situate near the conflux of those rivers.

11. ARAGON.

Aragon, so called from a river composed of two streams which descend from the Pyrenean Mountains, and unite below Jaca, is bounded on the east by Catalonia, on the south by Valencia, on the west by Castile and Navarre, on the north by the Pyrenees; of an oval form, lying between 40° 10′ and 42° 50′ N. latitude, and between 2° 0′ W. and 0° 40′ E. longitude; being 180 miles from north to south, and 70—90 from west to east, containing 660,000 inhabitants. This province, in general, is mountainous, dry, sandy, badly cultivated, and thinly inhabited. Some fertile tracts yield corn, wine, oil, flax, fruit, and saffron; and the mountains contain mines of copper, lead, &c. The river Ebro traverses it obliquely from north-west to south-east, and is augmented by many streams on either side; on the right by the Xalon, the Guerva, the Arguas, the Martin, the Guadalope, and the Argas; on

the left by the Ega, the Arga, the Aragon, the Gallego, the Cinca, and the Segre.

Cities, &c.---Saragossa, the capital, an archbishop's see, the residence of a viceroy, and the birth place of many learned men, is an open, large, tolerably built city, with broad but indifferently paved streets, in a fertile and well cultivated plain, at the influx of the Guerva into the Ebro. It contains a citadel, an university founded A. D. 1474, a cathedral, 16 churches, 40 convents, and 36,000 inhabitants. A bridge over the river is 600 feet in length. Near this place passes the famous canal designed to form a communication by the Ebro from sea to sea, i. e. between St Ander on the Bay of Biscay and Tortosa near the coast of the Mediterranean, a distance considerably more than 100 Spanish leagues.

Nuestra Senora del Pilar, below Saragossa, near Fuentes, is a place of great devotion frequented by pilgrims.

Sastago and Escatron, are two small places, above the confluence of the Martin and Ebro, nearly opposite to Rueda, between Saragossa and Mequinenza.

Ixar, a little town at the foot of an eminence, on which stands a castle, in a fertile tract watered by the Martin.

Caspe, an old town and castle, where Ferdinand IV. was chosen king of Aragon, about 17 leagues south-east of the capital, in a fertile territory, at the junction of the Guadalope and Ebro. Alfonso II. having taken this place from the Moors A. D. 1068, conferred it upon the knights of St John.

Alcanitz, a small and neat town on the Guadalope, four leagues south of Caspe. Its inhabitants extract considerable quantities of allum from the neighbouring hills.

Montalvan, a fortified place between two rocks, below the source of the Martin, 18 leagues south of Saragossa.

Tervel, a small well built trading town, and bishop's see, containing eight parishes, eight convents, and 9000 inhabitants; defended by a citadel,

tadel, on an eminence surrounded by a fruitful plain, 29 leagues southward of the capital, at the conflux of the Alhambria and Guadalaviar, 24 leagues from the sea-coast.

Albarrazin, formerly Ebn-Razen, long in possession of the Moors, is a small thinly peopled town, containing three parishes, and about 1800 inhabitants, on an eminence bathed by the Guadalaviar, and environed by calcareous hills, five leagues west of Tervel. To the eastward are calcareous rocks, containing bones of oxen and other domestic animals. Some of these bones, as well as shells, are found in stones so hard as to be susceptible of a fine polish.

Calamocha, an inconsiderable place on the Xiloca, 13 leagues north of Albarrazin, and five above Daroca.

Daroca, a small, tolerably built, walled town, containing many religious houses, and 2860 inhabitants, in a ravin between two hills, south south-west of Saragossa, on the Xiloca, below Calamocha. Its fortifications are decayed. To the westward are mountains reckoned among the highest in Spain ; and north-east the country is barren ; but the environs of the town are fertile.

Calatayud, a considerable town, containing 6500 inhabitants, with a castle on a rock, at the foot of a mountain, and termination of a pleasant and fruitful valley, yielding grain, wine, and excellent melons, below the conflux of the Xalon and Xiloca, 16 leagues south-west of Saragossa. Several miles south-west of Calatayud, there is a cistercian abbey called Notre-Dame de la Piedra, founded by James the Conqueror, on a stream that petrifies wood, plants, &c.

Alhama, a village noted for its medicinal baths, several leagues south-west of Calatayud.

Plasencia, a little town on the Xalon, about five leagues westward of the capital.

Borja, a gay place, containing a castle, three churches, and 3000 inhabitants, 13 leagues north-west of Saragossa, on the declivity, and at the

the foot of an eminence, in a fertile and populous territory, yielding corn, wine, and excellent pastures.

Tarrazona, a small, tolerably built, walled, thinly inhabited, trading town, containing three parishes, and eight convents, partly on a rock, and partly in a fertile plain, on the river Queiles, among the mountains of Moncapo. It is the see of a bishop, with a revenue of 20,000 ducats. The environs abound in corn, wine, fruits, and pastures.

Exea de los Cavalleros, an inconsiderable place between two rivulets, in the northern part of the province. Its surname commemorates the bravery of some French and Gascogne cavalry, when Alfonso I., king of Aragon, took it from the Moors.

Salvatierra, a place of little note in the north-west corner of the province.

Sallent, a small place, 25 leagues north north-east of Saragossa, near the source of the Gallego, among the mountains of the ancient county of Aragon. This county consists of some fine vallies, viz. those of Confranc, Aisa, Aragues, &c. thinly interspersed with villages. The valley of Tena, containing Sallent and other villages, is one of the largest and best. From this valley are two roads leading into France, one through the valley of Aspe, and the other through that of Osseau.

Loarre, a village at the foot of the Pyrenees, with a castle where Count Julian died a prisoner.

Huesca, an ancient tolerably built town, and bishop's see, containing a Gothic cathedral, an university founded A. D. 1354, four parishes, many convents, and 6800 inhabitants, in a fertile plain, near Mount Aragon, 10 leagues north north-east of Saragossa, on the Isuela a small stream that runs south south-east to the Cinia. A provincial council was held there, A. D. 598. The valley of Gistan, nearly of a circular form, under 18° east longitude, about 15 leagues north north east of Huesca, is bounded by hills containing mines of lead, copper, and cobalt. The river Cinca, below its source in that valley, descends through a pass 200 feet wide, between two rocks upwards of 1000 feet in height.

Mequinenza,

Mequinenza, an old town, by its situation a place of strength, in a fruitful tract, at the confluence of the Cinca, Segre, and Ebro, on the border of Catalonia, 20 leagues south-east of the capital. Part of the country between Huesca and Mequinenza, on the right hand of the Isuela, is covered with a mountainous ridge called Sierra de Alcubierre.

Fraga, Flavia Gallica, an old town, strongly situate, with a good garrison, a few leagues north of Mequinenza, among the mountains, on the Cinca.

Sixena, an inconsiderable place, seven leagues northward of Mequinenza. Here Alfonzo, king of Aragon, was defeated by the Moors, A. D. 1133.

Balbastro, Barbastrum, a little town, and bishop's see, containing 4000 inhabitants, 12 leagues north of Mequinenza, in a fruitful territory, yielding grain, hemp, wine, and fruits, on the right hand of the Cinca.

Monçon, or Monzon, is a little town, containing a castle, a church, and several convents, a few leagues south south-east of Balbastro.

Venasco, a small place, in a cognominal valley, bounded by the Pyrenees, and noted for good pasture, near the north-east extremity of the province. In the neighbouring mountains are mines of lead, copper, &c. The principality of Sobrarbe consists of several vallies, viz. those of Terrantona, Gistain, Puertolas, &c.

Ainsa, formerly the capital of Sobrarbe, is now a walled and tolerably built town, containing 500 inhabitants, and defended by a castle, on a hill, near the junction of the Ara and the Cinca. The palace is in ruins.

Jaca, a walled town, and a bishop's see, containing a cathedral, four convents, an hospital, and about 1000 inhabitants. The citadel is a regular pentagon built in the reign of Philip II. The environs are cultivated; and the mountains yield medicinal plants and excellent pastures.

Sos, south of Sanguesa, and 13 leagues west of Jaca, near the border of Navarre, contains a castle, an ancient palace, and other public buildings, in a fruitful and agreeable tract.

Ribagorça,

Ribagorza, an earldom among the Pyrenees, includes the vallies of Benabarri, Venasco, Tamarit, St Estevan de Litera, &c.

Benabarri, or Benaverre, formerly the chief town of the earldom, now an inconsiderable place, containing several churches and convents, and 1500 inhabitants, on the declivity of a hill about 15 leagues eastward of Huesca. Its environs are fertile, yielding hemp, flax, and abundance of pasture. From Venasco lies a narrow road, among rocks and precipices, into France.

Molina d'Aragon, is one of the most elevated places in Spain and remarkable for its natural curiosities.

14. CATALONIA.

In a very early period, the Massilians planted several colonies on the coast of Catalonia. Barcelona was founded by the Carthaginians. After the demolition of Carthage, the Romans patronized Tarragona, in opposition to the colony of a rival. The barbarians of the north having subdued Spain, Ataulph, a Gothic leader, took possession of Catalonia, in the year 414; and during three centuries, his successors enjoyed the fruits of his conquest. The Saracens, A. D. 714, carried their victorious arms into those parts; and Barcelona once more became the capital of the kingdom. In the beginning of the ninth century, Louis Debonnaire, the son of Charlemagne, expelled the Moors; and from that time, the Emperors, as kings of France, governed Catalonia by vicegerents. The government of that province became hereditary in the family of Wifrid the Hairy. Raymond V. succeeded to the crown of Aragon towards the middle of the twelfth century; and on the failure of heirs male, the cortes, or states, elected Ferdinand of Castile, whose grandson united all the Spanish kingdoms into one monarchy. Catalonia has been often the seat of civil war; and insurrections have been often

more

more frequent here than in any other part of Europe, owing partly to the violent spirit of the inhabitants, and partly to their enthusiastic passion for liberty.

This province, of a triangular form, is bounded on the north by the Pyrenees, on the east by the Mediterranean, on the south by Valencia, on the west by Aragon; lying between 40° 30′ and 42° 50′ N. latitude, and between 0° 15′ and 3° 20′ E. longitude from Greenwich; being 160 miles from north to south along the western boundary, and 130 miles in breadth at the foot of the Pyrenees, but terminating in a point at the southern extremity of the province; containing one archbishoprick, seven bishopricks, 38 abbeys, one principality, two dutchies, five marquisates, 17 earldoms, 14 viscounties, many baronies, and 860,000 inhabitants.

Catalonia, in general, is a rocky and mountainous territory, without verdure and other wood than oaks, olives, and pines. A small proportion of it is cultivated. Extensive wastes are covered with shrubs. The richest and most populous tracts lie near Barcelona and the sea coast. There are mines of iron, lead, and coal, in the mountains, but they turn to poor account. The manufactures are of more importance.

The small but rapid rivers, Ter, Llobregat, &c. descend from the Pyrenees, and run south-east to the Mediterranean; and the Segre flows southward through the inland parts of the country, till it loses itself in the Ebro.

Cities, &c.—Barcelona, the capital and a bishop's see, is a large, well built, fortified, manufacturing, trading town, pleasantly situate, in the form of a semicircle, at the mouth of the Llobregat, on the sea coast, 95 leagues eastward of Madrid. It contains a fine cathedral, a citadel with six strong bastions, an university, an academy of arts and sciences founded A. D. 1752, many churches and convents, five districts, eight parishes, and about 92,000 inhabitants. The streets are narrow and crooked, but well paved, the houses are plain and lofty. The old Roman town occupies

an eminence in the centre of the city. The sea has retired several hundred yards, so that a considerable proportion of the present buildings is founded on the sands that were once the bottom of the harbour. The haven will probably soon be choaked up with sand. A deep loaden vessel can hardly pass over the bar. The port is handsome, and the mole is a solid structure. On a neck of land that runs into the sea and forms the port, Barcelonetta was begun to be built A. D. 1752, and is now a regular well built town, containing upwards of 2000 brick houses. At the end of the pier is a light-house, a slender tower. A rampart, or great walk on the walls, extends the whole length of the harbour. The manufactures are flourishing, and the trade is considerable. A thousand vessels enter the port yearly; and silk handkerchiefs, stockings, gun barrels, wine, oil, brandy, are exported. The appearance both from land and sea is remarkably picturesque; and the environs are in a high state of cultivation, studded with villages, gardens, and seats. An amphitheatre of hills covers the city on the west; Montjuich defends it from the noxious exhalations that proceed from the marshes at the mouth of the river; on the north-east, the coast, projecting into the sea, forms a noble bay. There are several Roman antiquities, viz. a mosaic pavement, sarcophagus, cisterns, vaults, &c. The strong fortress on Montjuich, founded about the year 1760, has been constructed at great expence. In 1640 Barcelona revolted to the French;—in 1652 it was recovered by the Spaniards.—It was besieged and taken by the French in 1691 and 1697, but was restored at the peace of Ryswick. In 1705 Charles III. made himself master of it; but in 1714 it surrendered to Philip after an obstinate defence. It is a desirable residence for foreigners.

Mataro, a well built flourishing sea-port, containing 9600 inhabitants, five leagues north-east of the capital, in a light sandy and well cultivated soil. This town contains five convents, with one general hospital, several manufactories of stockings and lace, and is noted for the excellence of its red

red wine. To the southward of it, near the shore, is a rocky bank, within which is anchorage in nine or ten fathoms, and to the eastward along the coast. North of the bank is anchoring ground, in 7--9 fathoms, as far as the mouth of the river.

Tortosa, an ancient, considerable, badly built, town and bishop's see, containing five parish churches, ten convents, and 10,000 inhabitants, on a declivity, defended by a castle, several leagues above the mouth of the Ebro, which is navigable for vessels of 50 tons up as far as the town, and for small craft much higher into the kingdom of Aragon. The waters of that river are muddy, and its inundations fertilize the adjacent valley, which is laid out in corn fields, and mulberry plantations, and bounded on the west by an amphitheatre of bleak and gloomy mountains. Tortosa is a place of some trade, but its university is inconsiderable. In its vicinity are some mines, and fine quarries of stone. To the southward lies the rich valley of Garena, where olive trees grow to a large size.

San Carlos, a new built town, not far from the mouth of the Ebro, in an indifferently cultivated tract. An unsuccessful attempt was made, not many years ago, to improve this part of the country by canals, and by establishing a commodious port.

Flix, a small place, defended by a castle on an eminence, peninsulated by the Ebro, eight leagues above Tortosa, near a cataract of that river.

Tarragona, by Abulfeda called Tarracunah, an ill built, dirty, trading town, and archbishop's see, containing a large cathedral built A. D. 1117, an university founded A. D. 1532, and 7500 inhabitants, 16 leagues south-west of Barcelona, at the mouth of the rivulet Francoli, on a round point projecting into the sea. Some vestiges of Roman buildings are extant, viz.---of an amphitheatre,---circus,---palace of Augustus,---temples,---an extensive aqueduct which brings water to the city from the distance of seven leagues, and crosses a dead ravin over a bridge 700 feet long and 100 high,---the tomb of Scipio, a small building 19 feet square and 28 in height, erected perhaps by some priest for himself and family. The

town has some trade in wine and brandy; but its harbour is indifferent. Before it on the east there is anchorage in six and seven fathoms, and to the south in seven and eight fathoms, near the mouth of a small river.

Campo Tarraganes, is about nine miles in diameter, and one of the best cultivated and most fruitful spots in Europe. The road north-east to Barcelona lies partly along a level and fertile shore, and partly through a rugged territory. The prospect incessantly varies, and is every where delightful.

Reus, a flourishing town, containing upwards of 10,000 inhabitants, who carry on a considerable trade in wine, brandy, and nuts. It is situate a few miles westward of Tarragona, in the plain. Not far behind the mountains that surround this plain stands a rich convent of Bernardine monks, who possess immense lordships, and lead a dissolute life. The road southwest to Tortosa lies through a broken and rugged country near the sea-coast, partly shaded with groves of locust and olive trees.

Monblanc, a little inland town, northward of Tarragona, on the right hand of the rivulet Francoli.

Cervera, a small fortified town, containing five convents, three hospitals, several churches, and 3000 inhabitants, ten leagues north of Tarragona, in a fertile and delightful valley surrounded by hills, on one side chalk and on the other limestone, watered by a cognominal stream which originates near Pallerolls, and runs westward to the Segre. Its university was founded by Philip V. A. D. 1718, and has commonly about 900 graduates.

Villa Franca, a neat town, containing 3000 inhabitants, eight leagues north-east of Tarragona, in a fertile tract, at some distance from the sea-coast.

Lerida, by Arabs called Laridah, an ill built, dirty, walled town, and bishop's see, with a ruinous castle on an eminence, containing about 15,000 inhabitants, partly on a declivity, and partly in a well cultivated but unhealthy valley, on the bank of the Segre, about 30 leagues west north-west

north-west of Barcelona, and 22 eastward of Sarragossa. A council was held here A. D. 528. This town declared for King Charles III., on the reduction of Barcelona A. D. 1705; but the Duke of Orleans A. D. 1707, took it by storm, after the unfortunate battle of Almanza. The garrison, consisting principally of British troops, retired into the castle, and surrendered on the 12th of November following.

Balaguer, an inconsiderable place, containing 3500 inhabitants, with a castle, in a fertile tract, at the foot of a steep hill bathed by the Segre, above Lerida.

Agramont, a little town, north-east of Balaguer, on a small stream that runs westward to the Segre.

Solsona, a small manufacturing town, and bishop's see, containing 2800 inhabitants, on a steep rock commanded by an eminence, 18 leagues north north-west of Barcelona, bathed by the Cardonero, which runs south south-east to the Llobregat.

Cardona, a tolerably built town, on an acclivity below Solsona, near a rock of salt upwards of 400 feet in length, and a league in circuit, partly covered with herbs and plants, and partly shaded with pines.

Manresa, a manufacturing town, containing 8000 inhabitants, near the conflux of the Cardonero and Llobregat.

Monistrol, on the Llobregat, is a place of little note.

Mont-Serrat, a famous abbey of Benedictines, consisting of 76 professed monks, and 28 lay brothers, on a mountain 3300 feet high, and 14 miles in circuit, bathed by the Llobregat, eight leagues north-west of Barcelona. The ascent is steep to the convent, which is situate in a nook of the mountain. Fifteen hermitages are placed among the woods, and some on the pinnacles of the rocks and cavities hewn out of them. The rocks are composed of limestone of different colours; in some parts they consist of free-stone and white quartz. The lower part of the mountain is fertile and shaded with trees.

Martorel,

Martorel, a mean place, consisting of one long narrow street, where much black lace is manufactured, four leagues from Barcelona, in the road to Montserrat. Its bridge was built A. D. 1768, out of the ruins of a decayed one that had been constructed by Hannibal B. C. 219. At the north end of it are the remains of a triumphal arch raised by that general in honour of his father.

Vich, a well built town, and bishop's see, containing a cathedral, nine convents, and about 8000 inhabitants, in a fruitful tract on the right hand of the Ter, 14 leagues northward of Barcelona, and two from Mountsenny one of the highest hills in Catalonia. In this district amethysts, topazes, and coloured crystals are found.

Girona, a considerable, well built, walled, thinly inhabited town and bishop's see, containing six parishes and 6500 inhabitants, on a declivity fronting the south-west, bathed by the Ter, 18 leagues N. N. E. of Barcelona. The cathedral is a grand but gloomy Gothic building, with a canopy and altar of silver. This place, defended by several forts, was taken by the French A. D. 1694, by the Spaniards A. D. 1697, by the forces of Charles III. A. D. 1705, by the French A. D. 1711. A council was held here A. D. 517. The country eastward is wild and mountainous, covered with pines; south-west to Barcelona, it is rugged, and the road extremely bad; but the prospect on either hand is delightful, and the fields on the banks of the Besos are fertile, yielding grain, wine, hemp, and fruits.

Junquiera, anciently a considerable town and colony of Massilians, at present a paltry village, about eight leagues northward of Girona, near the confines of France. In its environs, which are surrounded by wooded mountains, the Christians were defeated by the Moors A. D. 920.

Figuera, a straggling town containing 4600 inhabitants, four leagues southward of Junquiera. The adjacent country is agreeable; the hills are shaded with evergreen woods; the plains are in high cultivation, and divided by hedges of aloe and wild pomegranate. Above the town Ferdinand

dinand VI. began a spacious fortress capable of containing 12,000 men, but it is far from being finished, and is of little use. The road thence to Girona is diversified with gentle eminences and fruitful plains. In two of these hills are some volcanic appearances.

Palamos, a little, fortified town, partly on a declivity, and partly in a plain, near a bay which forms a good harbour, a few leagues south of Cape Palafugel, and about 18 N. E. of Barcelona.

Ampurias, anciently a place of note, now an inconsiderable sea-port, containing 2000 inhabitants at the mouth of the river Fluvia.

Campredon, a place of some strength, with a citadel on an eminence, at the foot of the Pyrenees, 12 leagues N. N. W. of Girona, near the source of the Ter.

Roses, a little town defended by two forts, on a bay with a good harbour, between Ampurias and Cape Creus. This Cape, an extension of the Pyrenees, and the natural boundary between France and Spain, is composed of calcareous rocks.

Puycerda, a small town defended by a castle, about 19 leagues N. W. of Girona, in the district of Cerdagne, watered by the Segre, near the north boundary of the province.

Belver, an inconsiderable place, on the Segre, below Puycerda.

Urgel, an ancient, small town, defended by a castle, on the Segre, seven leagues south-west of Puycerda, in a plain surrounded by hills whose declivities are covered with vineyards.

The valley of *Aran* lies N. W. of Catalonia, among the Pyrenees. Its chief place is *Viella*, on the *rio Negro*, a small stream that falls into the Garonne. Along this valley is one of the routes from France to Catalonia. The whole valley, being about 40 English miles long, contains 32 villages. This great population results from the division of property, and not from manufactures.

Maps.—Omitting those published before the 17th century, a map of Spain was delineated by Kessel Gerard from the observations of Andreas

dreas D'Almada, professor at Coimbra. Some trivial alterations and improvements in it were made by Sanso d'Abbeville, and these were the patterns followed by David Funk, N. Fischer, and Fr. de Witt. In the year 1716, a map of this kingdom and of Portugal was published in four sheets by Jaillot. Roderick Mendez de Sylva's map was copied by De L'Isle and by Matthew Seuter. Those by Nolin, Inselin, and Homann's heirs are indifferently executed. Maps of the several provinces have been constructed. The atlas of Lopez, neither elegant nor accurate, was published in 1798.

ISLANDS BELONGING TO SPAIN.

The Baleares and the Pithyusae, lie in the Mediterranean Sea, opposite to the coast of Valencia.

The former are two in number, viz. Majorca and Minorca.

1. *Majorca, or Mallorca,* is situate between 39 20′ and 40° 5′ N. latitude, and between 2° 20′ and 3° 20′ E. longitude from Greenwich, being 53 miles from west to east, and 60 from north to south, containing 1440 square miles.

The four principal capes of this island lie in the direction of the four cardinal points nearly, and are called Pedra, Grosser, Salinas, and Formentor. Its north and west parts are rough, wooded, and hilly; the south and east are level and well cultivated, producing corn, wine, honey, saffron, &c. There are several good harbours and anchoring places along the coasts.

The climate of Majorca is delicious; resulting from the varied surface of the country, which rises from some beautiful plains to gentle slopes, which, after many undulations of surface, terminate in mountains. In the greatest heats of July and August, the hills preserve a temperature almost vernal; nor are the heats in any part suffocating. The winters, except on the most elevated parts of the hills, are so mild and

and pleasant, that almonds blossom in December, and many wild flowers are in all their beauty throughout the year. In the depth of winter, ice formed during the night melts before the day is far advanced. No piercing winds are ever felt; and a fog is scarcely known. The acclivities of the hills are modelled into terraces, and cultivated with care. Olives are planted, and under them wheat is sown; and in the level tracts are many almonds, mulberries, and all sorts of fruit in perfection. In the year 1786, the products of this island, consisting of wheat, barley, oil, wine, fruits, hogs, &c. were estimated at L.1,121,248.

Towns, &c.—Majorca, or Palma, the capital, and a bishop's see, is a considerable, well built, fortified town, containing an university, a large cathedral 580 palms long and 262 in breadth, many churches, and 10,000 inhabitants; situate partly on a declivity, and partly in a plain, at the bottom of a bay, between Cape Figuera and Cape Blanco, on the south coast.

Alcudia, a small town on the north-east coast, between Porto Major and Porto Minor, two harbours defended by two forts.

Pollenza, an old town with an indifferent harbour, on the north coast, in a district yielding excellent wine, called Montana.

Llampayes, a harbour defended by two towers, where the Turkish fleet was repulsed, A. D. 1561. The port of *Santelma* is defended by two small fortresses. The harbour of *Andraig* is exposed to the west wind. *Porto Pedro*, on the south-east coast, is a safe harbour.

Sineu, anciently a royal residence, now a mean town, containing a parish church, a convent, and about 1000 inhabitants, in the interior part of the island.

Cabrera is a small triangular island, and an usual place of banishment, with a secure harbour, formerly defended by a castle. Lying opposite nearly to Cape Salinas, the south promontory of Majorca, it is mountainous, and almost uninhabited.

The names of several small islands adjacent to Majorca are as follows, viz. *Los-Blides* near Port d'Olloa, noted for a quarry of excellent marble. *Fromentor*, near Cape Albaeux. *Colomer*, near Cape Figuera-Foradada and Pantaleu. *Dragonera*, on the west coast. *Mijana* and *Morassa*, near Dragonera.

Minorca lies seven leagues eastward of Majorca, under 40° north latitude, and 30° 45′ east longitude; being 30 miles in length, and 12 in breadth. The surface of the country is unequal and rugged. In many places are long and deep vallies. The coast in general is low; the south-west side of the island is tolerably plain and regular; the north-east parts are diversified with hills and marshy valleys; and there are a few hills near the centre. The air is pure, and seldom darkened with fogs; but the low vallies are sometimes loaded with moist and unwholesome vapours. The soil, in general, is thin, light, and stony. The environs of the towns are inclosed and cultivated; the rest of the island, for most part, is rocky, or covered with woods and thickets. There are some pools, but few rivulets. The principal products are honey, wax, and salt. Some wine, and a certain kind of cheese are in estimation; but most of the necessaries of life are imported. This island is divided into four districts called Terminos, viz. the Termino of Mahon, of Alcyor, of Mercadal and Fererias united, and of Ciudadella. Some years ago it was supposed to contain 3089 houses, 15,000 males, 12,000 females, 300 priests and other ecclesiastics, 20,000 goats, 7000 horned cattle, 60,000 sheep, 4000 hogs, with many mules and horses. It was taken by the English in 1708, and confirmed to them by the treaty of Utrecht. The French took it in 1756, but it was restored to the English by the peace of 1763. It was retaken by the Spaniards during the American war.

Towns, &c.—*Mahon*, the capital, is a considerable town, near the eastern coast, with an excellent harbour, the narrow and difficult entrance into which is defended by a strong fort called St Philip. Situate on a rising

rising ground, this town was formerly surrounded by a wall. The buildings are of freestone, either covered with tiles, or flat roofed and terraced. The streets are narrow, winding, and ill paved. The entrance of the harbour is about 90 fathoms wide; but, within, it is large, commodious, and safe. Beneath the town is a fine quay. About one and a half mile below the town is Bloody Island, with that of Golgotha, both of which are nearly in the middle of the Channel. Oyster Cove is almost opposite to Bloody Island, and lower down is Quarantine Island, not far from the north shore, with an open channel between it and the main land.

Aleyor, the capital of a district, a tolerably built inland town on an eminence surrounded by hills, to the westward of Mahon, and south-east of Mount Toro.

Mercadal, an inconsiderable place, between El Toro and Mount Agada or Agatha, whose summit was fortified by the Moors.

Ciudadella, formerly the capital of the island, now a decayed town, consisting of about 500 houses, environed by a wall, on the west coast, near Cape de Banobs. About a league thence is a cavern called Cova Perella, containing various kinds of stalactites.

In many parts of the island are found large grottos, mines of lead and iron, with quarries of marble and stone.

The most considerable of the *Pithyusæ*, so called from the pines in which they abounded, are the following, viz.

Ivica, a mountainous and wooded island, 20 miles from north-east to south-west, and 10—12 in breadth, 54 miles south-west of Majorca. Uneven and badly cultivated, it produces wine, fruits, salt, and excellent pastures. Its cognominal capital is a small fortified town, with a good port, of difficult entrance, on the eastern coast. Most of the inhabitants of this island are employed in the salt trade. There is a craggy rock called Belcran off the westermost part of the island, and another called Comiger off the north-west point; but near the west point there

is a good road clear of the rock, and good anchorage in several places on the coast.

Fromentera, a little triangular island, two miles south of Ivica, formerly inhabited, but now abandoned to African corsairs. On the coast are some harbours and anchoring places. A bay to the north-east has 3—12 fathoms; that to the north-west has 4—7 fathoms; and that to the south has 6—10 fathoms.

Moncolobrer, anciently called Ophiusa and Colubraria from the great quantity of serpents it contained, or rather on account of the serpent worship there established, a small island, 17 leagues north-west of Majorca, and 10 from the coast of Valencia.

On the north coast of Africa, the King of Spain is in possession of Ceuta, Penon de Velez, Melilla, Mars-al-quibir, and Oran.

Ceuta, Abyla, a strong place, is situate on a peninsule of the Barbary coast where the strait of Gibraltar is most confined. This town contains upwards of 2000 inhabitants, but there is no proper harbour for vessels. It was taken from the Moors, A. D. 1409, by the Portuguese, from whom it passed to the Spaniards in 1640.

Penon de Velez is a fort built on a steep insulated rock, and defended by batteries of cannon, near the town of Velez de Gomera, by Arabs called Bedze, south-east of Ceuta. The fort, founded on that rock by a Spanish Admiral in 1508, was surrendered to the Moors A. D. 1522, and recovered by the Spaniards in 1564.

Alhucemas, a strong hold, defended by a castle on the highest part of the rock, commanding the town of Mezemma, is situate at the mouth of the river Noror, six leagues eastward of Penon de Velez.

Melilla, or Rusadir, is a small town and fortress, containing about 2000 inhabitants, on an insulated rock that has a communication with land by a bridge, eastward of Penon de Velez, on the east coast of a peninsule that forms a small gulf. This place has been several times besieged. In the year 1774, an army of 60,000 Arabs, commanded by

a son of the Emperor of Morocco, appeared before it, but were constrained to retire after a siege of three months.

Mazarquivir, or Mars-al-quibir, seized by the Spaniards in 1506, is situate at the extremity of Monte Santo, east of Melilla, and almost south of Carthagena. Its harbour is capacious and secure.

Oran is a modern town, built by the Moors and inhabited by soldiers and exiles, in the kingdom of Tremeçen, in 36° N. latitude nearly, and 17° 20′ E. longitude from Ferro. It rises in the form of an amphitheatre; on the highest part of the town is a castle named Alcazava, and to the westward is a high mountain called Mezeta. There are several forts in that neighbourhood. Oran has an excellent harbour, nearly opposite to Carthagena in Spain.

To the King of Spain likewise belong the Canary Islands, &c. which are described in a subsequent division of this work.

In Asia his power extends to the Philippine and Ladrone islands, in the Oriental Ocean.

In North America, the Spanish settlements are California, Mexico, or New Spain, New Mexico, the Island of Cuba, Porto Rico, &c.

In South America, the greatest part of Terra Firma, Peru, Chili, and almost the whole of Paraguay, are subject to the crown of Spain.—Buenos Ayres and Monte Video were reduced by a detachment of British troops in 1806; but, soon after, were recovered by a Spanish force, that compelled the invaders to retire from the American Continent.

Distances

Distances between the most noted places; and Routes of Travellers through the most frequented parts of Spain & Portugal.

I. From BAYONNE to MADRID S. S. W.

	Leagues.
From Bayonne to St Jean de Luz	4
To Tolosa	8½
— Villafranca	3
— Mondragone	6
— Vittoria	6
— Miranda	6
— Pancorvo	4
— Burgos	11
— Torquemada	12
— Valladolid	10
— Olmedo	16
— Segovia	5
— Ildefonso	2
— Escurial	8½
— Madrid	7
	109

From Bayonne to Tolosa, the road extends partly across mountains, and partly through fine plains and scenes highly picturesque. A branch of the Pyrenees lies between Tolosa and Vittoria. Thence to Miranda the road is well made and agreeable. The territory between the Ebro and Burgos is mountainous. From Burgos to Madrid the country, for the most part, is hilly, poor, and badly cultivated.

II. From BAYONNE to MADRID—another route.

	Leagues.
From Bayonne to St Jean de Luz	4
To San Sebastian	4
— Mandara	5
— Durango	5
— Bilbao	4
— Orduna	7
— Pancorvo	9
— Castil de Peones	5½
— Monasterio de Rodillas	1½
— Burgos	4
— Lerma	6
— Aranda de Ducro	7
— Castillego	9½
— Samosierra	3
— Buitrago	3½
— Cabrera	2½
— St Augustin	4
— Alcovendas	3
— Madrid	3
	92

This road conducts the traveller through a barren, heathy, rugged, and mountainous country.

III. From BAYONNE to VALENCIA, southward.

	Leagues.
From Bayonne to St Jean de Luz	4
To Berrueta	8
— Pamplona	6
— Tafalla	6
— Caporosa	4
— Tudela	6½
— Mallen	4
— Alagon	6
— Zaragossa	4
— Muela	6
— Lechon	8
— Calamocha	3
— Villa Franca	6
— Tervel	8
— Segorbe	6
— Murviedro	5
— Valencia	4
	94½

From Bayonne to Pamplona, the road lies across the mountains and pleasant vales of Pyrenees; thence an agreeable vale extends to Tafalla. From Tafalla to Segorbe, the country is bleak, the soil bad, and the cultivation execrable. But within a few leagues of Valencia, the vales and plains are uncommonly agreeable and fertile.

IV. From PAMPLONA to MADRID, S. S. W.

	Leagues.
From Pamplona to Tafalla	6
To Baltierra	7
— Agreda	8
— Zamarcon	6
— Almanzan	4
— Rio Frio	10½
— Padella	4½
— Alcala	8
— Madrid	6
	60

This route traverses the north-east parts of Old Castile, which are rugged and mountainous.

V. From VALENCIA to MADRID, W. N. W.

	Leagues.
From Valencia to Chiva	5
To Siete Aguas	6
— Utiel	5
— Contreraz	5
— Motilla	6
— Olmedilla	3
— Almarcha	4
— Saelices	7
— Nobleza	10
— Aranjuez	3
— Madrid	7
	61

From Chiva to the vicinity of Motilla, the country is partly mountainous and partly level, but extremely barren. Between Olmedillo and Almarcha is a well cultivated plain, which extends almost to Aranjuez. The tract thence to Madrid is poorly cultivated; but the road is agreeable, being level, well made, and on each side planted with elms.

VI. From BARCELONA to MADRID, W. S. W.

	Leagues.
From Barcelona to Piera	7
To Cervera	8
— Lerida	10
— Fraga	4
— Bujaralos	7
— Zaragossa	11
— Daroca	9⅓
— Tortuera	6
— Aquilarejo	9
— Algora	4
— Torija	7
— Guadalajara	3
— Alcala de Henarez	4
— Madrid	6
	95¼

This road passes through the southern parts of Catalonia, the middle of Aragon, and the north-east extremity of New Castile. From Barcelona to Zaragossa the country is well cultivated and agreeable; but from the fertile plain of Zaragossa to Alcala it is barren.

VII. From LISBON to MADRID, E. N. E.

	Leagues.
From Lisbon to Aldea Gallega	3
To Estremoz	21
— Elvaz	5
— Badajoz	3
— Merida	7
— Meajadas	7
— Truxillo	6
— Almaraz	8
— Torraloa	8
— Talavera de la Reyna	6
— Maqueda	7
— Alamo	5
— Madrid	6
	92

The greater part of the country between Lisbon and Merida is sandy, barren, and uncultivated: and northward from Badajoz there is little appearance of industry, except in the vicinity of towns. On the left, at some distance, is Sierra de Plazencia, a considerable chain of mountains frequently covered with snow.

VIII. From the north-east extremity of SPAIN, along the coast, to CADIZ, and thence northward to MADRID, and BAYONNE.

	Hours.
From Perpignan to Jonquiera	7
To Girona	11
— Sansalong	11
— Barcelona	10½
— Villa Franca	9½
— Tarragona	9
— Venta del Platera	12
— Tortosa	7½
— Torreblanco	14½
— Valencia	19
— Alzira	6½
— Fuente de Xiguera	11
— Alicant	14
— Orihuela	10
— Carthagena	13
— Lorca	14
— Baça	22
— Guadix	9½
— Granada	17½
— Antiquera	21
— Ossuna	15
— Cabeças	19
— Xeres	10
— Cadiz	5
— Alcantarello	17½
— Sevile	8
— Eccija	17
— Cordova	9
— Anduxar	16
— Carolina	11
— Santa Cruz	12
— Consuegra	20
— Toledo	12½
— Madrid	14
— Escurial	4½
— Segovia	15
— Valladolid	21
— Torquemada	11
— Burgos	14
— Pancorvo	14½
— Vittorea	9
— Tolosa	14

To

	Hours.
To St Jean de Luz –	14
— Bayonne – –	3½

N. B.—The hour is equal to about four English miles.

The road over the pass that separates France from Spain is now of easy access. To Girona the country is finely diversified with fertile plains and gentle eminences. Thence to the vicinity of Villa Franca, it is broken and hilly. The Campo Tarragones is one of the most fertile spots in Europe. On either side of Venta del Platera, the fields are waste, bleak, and uneven. Tortosa stands in a vale surrounded by gloomy mountains. The coast southward is diversified with bold promontories and green woody vales. The plain of Valencia is extensive, highly cultivated, and beautiful. Thence to Alzira an improved and fruitful territory extends. The environs of Xativa are full of broken and chalky hills. The populous vale of Alicant is enclosed by mountains. From Alicant to Orihuela the country is fertile and agreeable. The road thence to Carthagena lies across a rugged ridge of mountains and a dreary plain. The intervening tract between Carthagena and the plain of Granada is, for the most part, mountainous, and of difficult access. The road from Granada to Cadiz traverses a level territory and the fertile plains of Andalousia. From Cadiz towards Cordova the country is partly hilly, and partly champaign. To the north of Cordova, the Sierra Morena, a chain of mountains, separates Andalousia from Castile. The Mancha is a bare, extensive plain, intersected by ridges of low hills and rocks. Thence to Madrid, the country is bleak and disagreeable.

ANCIENT

ANCIENT GAUL.

GAUL was bounded on the north and west by the sea; on the east by the Rhine and the Alps; and on the south by the Mediterranean and the Pyrenees. It extended from 42° 30′ to 52° N. latitude, and from 4° 40′ to 8° 20′ E. longitude. Its greatest breadth was 600 English miles; but much less towards either extremity. Its length from north to south was from 480 to 620 miles. Hence it is obvious, that Ancient Gaul was of greater extent than Modern France. 'To the dominions 'of that powerful monarchy, with its recent acquisitions of Alsace and 'Lorraine, we must add the Duchy of Savoy, the Cantons of Switzer-'land, the four Electorates of the Rhine, and the territories of Liege, 'Luxemburgh, Hainault, Flanders, and Brabant.'

This extensive region was, by the Greeks, called *Galatia* and *Celtogalatia*, to distinguish it from Galatia an Asiatic province; and by the Romans *Gallia Ulterior*, or *Transalpina*, *i. e.* Gaul beyond the Alps, to distinguish it from Gallia Citerior, or Cisalpina, which lay on the same side of the Alps with Rome, and was properly a part of Italy.

Gallia Ulterior was called *Comata*, from the long hair worn by the inhabitants. The south part of it afterwards received the appellation of *Narbonensis*, and sometimes that of *Braccata*, from the use of breeches.

In describing the mountains of Gaul, the Alps, by which it is separated from Italy and Germany, principally attract our attention. That vast chain, in the form of a crescent, extends from *Vada Sabatia*, now Savona, at the bottom of the Gulf of Genoa, to *Sinus Flanaticus*, the Gulf of Carnaro, at the south-east extremity of Istria on the Adriatic Sea. Its subdivisions were distinguished by different appellations. The limits of every subdivision will be most easily ascertained by referring to the modern names of the adjacent countries.

Alpes Maritimæ, bounded on the west by Provence, and on the east by the territories of Genoa, stretch from Nice and Monaco northward to Mount Viso, between Dauphiné and Piedmont.

Alpes Cottiæ lie between Mount Viso and Mount Cenis.

Alpes Graiæ, or little St Bernard, proceed north-eastward, between Savoy and Piedmont, to Great St Bernard, where Alpes Penninæ begin, and extend eastward between the Milanese and Valais, to Mount St Gothard.

Alpes Rhetiæ are a continuation of the Penninæ to the source of the river Drave. That part of the chain which lies to the north of Trent is called *Alpes Tridentinæ*.

Alpes Noricæ proceed along the confines of Bavaria, Tyrol, and Carinthia, and terminate at Dolback in Tyrol, to the north of the river Taramento.

Alpes Carnicæ, extends thence to the sources of the Save, or to Mons Occa, now Monte della Vena.

Lastly, under the appellations of *Pannonicæ* and *Juliæ*, the Alps reach from Mount Occa to the springs of the Kulpe, or to the extremity of Istria.

Across the Alps no communication between Gaul and Italy is practicable, except through narrow defiles, of which the following are the most considerable.

1. The first traverses the Alpes Maritimæ, by a road which leads from Sisteron.

2.

2. The second pervades the Alpes Graiæ. In this way Hercules passed into Italy.

3. The third lies across the Alpes Cottiæ. Through this defile the Gauls, under the command of Bellovesus, penetrated into Italy.

4, & 5. Two roads have been found through the Alpes Penninæ.—The one is supposed to have been the route of Hannibal, and, in the other, Constantius marched against the Alemanni.

6. Across the Rhetiæ, and along the lake of Como, Drusus and Tiberius marched to put an end to the Rhetian war.

7. From Trent to Augsburg, across to Tridentinæ, the Cimbri passed into Italy.

8. In one direction the Alpes Carnicæ have been pervaded.

9. The Roman army crossed the Juliæ, in its progress to Pannonia and Illyria. Beside the Alps, several considerable ridges of mountains may be traced in Gaul.

Montes Cebennici, Cevennes, originate near Dijon, in Burgundy, and proceed southward almost to the Pyrenees, near the sources of the Garonne. *Mons Jura* extends from the Rhone above Vienne, north-east to the Rhine, separating the Helvetii from the Sequani, and Switzerland from Franche Compté. This chain passes within 19 miles of the lake of Geneva, and assumes different appellations. *Mons Vogesus*, Le Mont de Vauge, stretches from Mount Jura northward, between Alsace and Lorrain, to the vicinity of Mayence. In this ridge are the sources of the Meuse, the Moselle, and the Saone.

The principal rivers in Gaul are as follows:

1. *Rhodanus*, the Rhone, a large and impetuous river, originates near Mount St Gothard, in the Canton of Uri, two leagues from the sources of the Rhine. In a westerly direction, it proceeds to *Lacus Lemanus*, the lake of Geneva, which it traverses from one extremity to the other. Five leagues below the lake, it disappears between two rocks; but, soon after emerging, it continues to run southward to *Augustum*, Oste, where

it suddenly changes its direction, and north-west swiftly flows to Lyon. Thence it moves due south with rapidity, and discharges itself by three mouths into the Mediterranean. Above Lyon it is augmented by many small streams, the most considerable of which is Dain on the right, Sier and Guier on the left. Below that city, it is increased on the left by *Isara*, the Isere, which rises in great S. Bernard on the border of Savoy; and by *Druentia*, the Durance, whose springs are in the lower part of Dauphiné. The former loses itself in the Rhone above Valence; and the latter at Avignon.

2. The source of fl. *Arar*, called *Sauconna*, by Ammian. Marcell. the Saone, is in the northern parts of Franche Comté, near the confines of Lorraine. Thence it proceeds south-west into Burgundy, and receives the Doux near Chalons. The Doux issues out of a small lake in the Bailliage of Pontarlier, and flows northward, along the eastern frontier of Franche Comté, to Montbelliard. On a sudden, changing its direction, it traverses the middle of Franche Comté, and falls into the Saone. These rivers united, under the appellation of the Saone, flow gently southward, and join the Rhone at Lyon.

3. *Garumna*, the Garonne, rises in the Pyrenees, and makes its first appearance in the Val d'Aran, to the south of S. Bertrand. Thence running north-east with rapidity to Toulouse, and afterward north-west through Guienne, it discharges itself into the Bay of Biscay, on the confines of Saintonge. On the left it receives the Neste below S. Bertrand, the Save above Verdun, the Gunone above Castel-Sarrazin, the Gers above Agen, and the Baize at Equillon; all which originate in Niebouzan. On the right, the Garonne is augmented by the Ariege above Toulouse, by *Tarnes*, the Tarn, at the north-east extremity of Languedoc, by the Olt at Equillon, and by the Dordogne below Bourdeaux.

4. *Liger*, the Loire, from the Cevennes, near the mouth of the Rhone, flows northward through the middle of the kingdom to Orleans; and thence westward to the Bay of Biscay, into which it falls below Nantes.

On

On the left it is increased by *Elaver*, the Allier, which rises in the diocese of Mende in Languedoc, and runs north, through Auvergne and Bourbonois, to Nevers; by *Caris*, the Cher, the Indre, and the Vienne, below Tours; and on the right by *Lidericus*, the Loir, *Sarta*, the Sarte, and *Meduana*, the Mayenne, which unite near Angers, and below this city fall into the Loire.

5. The sources of *Rhenus*, the Rhine, are in Oiseau and St Gothard, mountains in Switzerland. Having traversed *Lacus Brigantinus*, the lake of Constance, from the one extremity to the other, it flows westward to Basil, on the confines of Alsace; and thence north along the frontier of Gaul, and north west through Germany. By several mouths it discharges itself into the German Ocean. In its progress it visits many towns of note, viz. Constance, Basil, Strasburgh, Spire, Worms, Mayence, Coblentz, Cologne, Dusseldorp, and Rotterdam. It receives the following streams from Germany; *Nicer*, the Neckar, which rises in Wurtenberg; *Maenus*, the Maine, and *Luppia*, the Lippe. From Gaul it is augmented by *Mosella*, the Moselle, which originates in *Mons Vogesus*, and terminates at Coblentz. The source of *Mosa*, the Meuse, is near the south-east boundary of Champagne. By an indirect and winding course that river passes through the western parts of Lorraine to the forest of Ardennes, traverses the low countries, and falls into the Rhine at Liege.

6. *Sequana*, the Seine, originates near Nevers in Bourgogne. The direction of its course is north-west through Champagne, Isle de France, and Normandy, to the British Channel, into which it falls near Havre de Grace. On the right, it receives, below Troyes, the Aube; at Paris, *Matrona*, the Mearne, which rises in the south-east parts of Champagne; and below Paris, *Axona*, the Oise, which flows south-west from the forest of Ardennes. On the left, it embraces the small rivers Yone and Loing,

Loing, to the south of Paris, in Isle de France. The length of its course is about 160 leagues.

7. *Aturus*, the Adour, composed of many small streams which issue out of the Pyrenees, falls into the Bay of Biscay at Bayonne.

At different periods, Gaul was peopled chiefly by colonies from Italy, to which it lay contiguous. When the Roman power resolved on the conquest of that extensive region, 120 years before the Christian æra, three great nations shared it among them. The *Celtæ* occupied more than one-half, viz. from the Seine and the Marne to the Garonne, and from the upper part of the Rhine to the Mediterranean. This province was anciently called Celtica. The *Belgæ* inhabited the territory on the lower part of the Rhine. The *Aquitani* were cantoned between the Garonne, the Pyrenees, and the Bay of Biscay.

When Cæsar reduced Gaul into the form of a Roman province, he divided the whole country into three parts, viz. Belgia, Aquitania, and Gallia Propria.

By a new division, B. C. 27, Augustus extended the northern boundary of Aquitania to the Loire. The country between the Loire and the Seine was styled Gallia Celtica; and afterwards Lugdunensis, from a colony settled at *Lugdunum*, Lyon. Part of Celtica, contiguous to the Rhine, and occupied by the Sequani and Helvetii, was added to Belgica, the adjacent province. Gallia Narbonensis first submitted to the Roman arms.

A small canton, called Viennensis, in the Alps, maintained its liberty until sometime after the reduction of Gaul. The remainder of Narbonensis was subdivided into *prima* and *secunda*.

Not long before the age of Cæsar, the Germans had seized a considerable portion of the Belgic territory. When the Romans made themselves masters of those parts, they divided the country along the Rhine, from Basil to Leyden, into Germania Superior and Inferior. Hence, under the Antonines, we find Gaul partitioned into six provinces, viz. Narbonensis,

nensis, Aquitania, Celtica or Lugdunensis, Belgica, Germania Superior and Inferior.

Towards the conclusion of the fourth century, Gaul was divided into twelve provinces, viz. Germania Prima and Secunda, Belgica Prima and Secunda, Sequania, Lugdunensis Prima and Secunda, Alpes Graiæ and Penninæ, Aquitania, Novempopulana, Narbonensis and Viennensis, Lugdunensis Tertia and Quarta, Narbonensis Secunda, Aquitania Secunda; and Alpes Maritimæ, being afterwards added to the preceding, the number of provinces amounted to seventeen; six of which were styled Consular, and the rest were governed by Presidents. Such was the state of Gaul when Honorius, A. D. 419, permitted the Goths to take possession of Aquitania Secunda, a maritime province, between the rivers Garonne and Loire, the limits of which were gradually extended by the additional gift of some neighbouring territories. About the same period, the Burgundi, a fierce and warlike tribe of Vandals, established themselves in Upper Germany, and afterward occupied two provinces which still retain the name of that colony. The rapacity, or ambition, of the Franks, was stimulated by the success of those invaders. Colonies multiplied along the banks of the Meuse, the Scheld, and the Rhine, and soon filled the whole extent of Lower Germany.

GALLIA NARBONENSIS.

Gallia Narbonensis, sometimes called Provincia Bracata, comprehending Dauphiné, Provence, Languedoc, with a part of Savoy, was at first divided into Prima and Secunda, and afterwards into three provinces, viz. Narbonensis Propria, Viennensis, and Narbonensis Secunda; to these were added Alpes Maritimæ and Alpes Graiæ.

I. NARBONENSIS PROPRIA, or PRIMA, now called Languedoc, was chiefly inhabited by two considerable tribes; viz. the *Volcæ Arecomici*, cantoned in the vicinity of the Rhone, and *Volcæ Tectosagæ*, in the western parts of the province.

1.

1. The towns and stations of the Arecomici were as follow, viz. *Nemausus*, the capital, a great city, and a Roman colony under Augustus, in the middle age, called Nemese, now Nismes. *Ugernum*, sometimes Gernum, in the middle age Bellum Quadrum, and by Gregory of Tours, *Castrum Arelatense*, was situate on the border of the Rhone, between Beaucaire and Tarasson in Gernica, anciently an insulated tract; but one of the arms of the river was long ago dried up. *Vindomagus*, afterward *Vicanus*, now Vigan; and *Ucetia*, Usez, west north-west of Nismes. *Luteva*, surnamed Forum Neronis, sometimes called Loteva and Lutevani, now Lodeve, on the small river Lergue. *Agatha*, Agde, a sea-port town, founded by the Massilians at the mouth of the Heraut. *Stagna Volcarum*, a chain of lakes between Aigues Monte and Agde, along the sea-coast. *Cessero*, now Tiberi, 12 Roman miles from Beziers in the road to Nismes, on the bank of the Eraut. *Piscenæ*, in the middle age Pesenatium and Pesenacum, now Pezenas, on the right hand of the Eraut, above Cessero. *Sextantio*, Sextatio, and Sostantio, 30 Roman miles south-west of Nismes, in an elevated site bathed by the rivulet Lez; some vestiges of it may be traced about three miles north-east of Montpellier. *Ambrussum*, on the river Vidour, 15 miles south-west of Nismes, and as far from Sextantio. There are some remains of a Roman bridge above that of Lunel, which is in the direct road between Montpellier and Nismes.

2. The territory of the *Tectosagæ*, a brave tribe, contained the following places of note:—*Tolosa*, surnamed Palladia, the capital, anciently a great city, on the Garonne, and famous for its rich temple, now Toulouse. *Carcaso*, afterward Castellum Circassone, now Carcassone, an inland town on the river *Atax*, or Aude. *Hebromagus*, now Bram, 14 Roman miles from Carcassone in the road to Toulouse. *Narbo*, in the time of Pytheas, one of the most flourishing towns in Gaul, in the reign of Augustus called *Julia Paterna*, now Narbonne, at some distance from the

the river *Atax*, or Aude, which traverses Lacus Rubresus, or Sigean lake, and discharges itself into the sea. *Bebrycia*, Aula, near Narbo, was the royal residence of Bebryx. *Baeterrae*, Beterras, Biterris, Biterrae, a Roman colony surnamed *Septimanorum*, Beziers, on the bank of the river Orbe, 16th miles from Narbonne. *Leucate*, a promontory now called Cape Franqui, from a flat island in its vicinity, between Narbonne and Rousillon. *Salsulae*, in the middle age Salsae, now Salses, 28 miles south of Narbonne, in the road to a passage across the Pyrenees.

Ruscino, anciently a considerable town, in the beginning of the ninth century, called Rosciliona, and soon after destroyed by the Normans. The tower of Rousillon is the sole remaining vestige of it, near Perpignan, at the mouth of a cognominal river. The adjacent territory was inhabited by the Sardones. *Illiberis*, anciently a considerable and opulent town, reduced in the time of Pomponius Mela, repaired by Constantine, who called it *Helena*, now in ruins, eight miles from Ruscino, on the river Illiberis, which descends from the Pyrenees. *Portus Veneris*, now port Vendres, near Collioure, between Illiberis and *Prom. Pyrenaeum*, or Cape de Creuz. *Ad Stabulum*, now Boulou, between Salses and the passage across the Pyrenees at Bellegarde. Pompey having terminated the war in Spain against Sertorius, raised a monument on the Pyrenees, with an inscription, denoting that from the Alps to the extremity of Spain Ulterior, he had reduced 876 towns. This monument was 63 or 65 miles south of Narbonne.

The *Consuarani*, or Consoranni, resided at the foot of the Pyrenees on the confines of Aquitain. The name of this tribe is preserved in Conserano, a district of Gascony ; and their capital is now called Lizier.

3. The *Helvii*, *or Elui*, sometimes Elicoci, inhabited a confined tract now called Vivarez, or Vivarais, to the northward of the Arecomici ; on the east bounded by the Rhone, and on the west by Mons *Cebenna*, or *Gebenna*, now Cevennes. *Towns*, &c. *Alba Augusta*, the capital, in the middle age *Civitas Albensium* and *Vivarium*, now Viviers, on the right

hand of the Rhone. Some geographers assert that the vestiges of Alba Augusta may be traced at Alps a small village north-west of Viviers. *Batiana*, Baix, on the right bank of the Rhone, between Ancona and Valence. Near the north border of this territory, opposite to the confluence of the Isere and Rhone, Fab. Max. Æmilianus defeated the Gauls with great slaughter, and erected a monument in commemoration of this victory.

A province extending from *Massilia*, or Marseille, along the left bank of the Rhone to the lake of Geneva, was called VIENNENSIS, and inhabited by several small tribes, among which were the following:

1. The *Allobroges*, who occupied the north district of Dauphiné with a small part of Savoy; on the south bounded by the Isere, on the west by the Rhone, and on the north by an imaginary line drawn from Lyon to Geneva.—*Towns*, &c. *Vienna*, Vienne, the capital, an opulent city and colony, to which Archelaus was banished by Augustus, on the left bank of the Rhone, about 20 miles below Lyon. *Geneva*, sometimes *Colonia Allobrogum*, afterward Cenava, Gennava, Civitas Genavensium, Janua, Januba, at the western extremity of Lacus Lemanus, or Lake of Geneva, on the confines of the Helvetian territory. *Muris Cæsaris*, a mole raised by Cæsar on the left bank of the Rhone, 19 miles in length, viz. from Geneva to Mount Wache. *Augustum*, now a mean place called Aoste, near the influx of the Guier into the Rhone, in the road between Vienne and Geneva. *Lavisco*, now Novalese, at a passage near the source of the rivulet Laissa, between Aoste and Lemens, and nine miles distant from each of these places. *Bergusium*, or *Bergusia*, now Bourgoin, 20 miles to the eastward of Vienne. *Turecionicum*, perhaps Ornacieu, near the coast of St Andre, about 19 miles from Moiran. *Morginum*, in the middle age Moirencum, now Moiran, 14 miles from Grenoble, in the road to Vienne. *Figlinae*, perhaps Castrum St Ramberti, between Vienna and Valence, near the influx of the Ore into the

the Rhone. *Ursoli*, now St Valier, on the right hand of the rivulet Galaber and near its influx into the Rhone, 22 miles above Valence, and 26 below Vienne. *Tegna*, in the middle age Tinetum, now Tein, on the left bank of the Rhone, between St Valier and Valence. *Cularo*, afterwards Gratianopolis, on an eminence bathed by the Isere, opposite nearly to Grenoble. *Lemincum*, in the middle age Villa Lemensis, now a mean place called Lemens, separated from Chamberri by the river Laisse, in the road between Vienne and Alpes Graiæ.

2. The *Vocontii* a powerful tribe, who inhabited the modern dioceses of Vaison and Die together with some neighbouring districts. Their principal settlements were,—*Vasio*, afterwards Vocontiorum Forum, the capital, now Vaison, to the left of the Rhone, on the small river Ouveze. *Dea Vocontiorum*, in the middle age Civitas Deensium, now Die, to the northward of Vaison, on *Druna*, the Drome, a small stream which loses itself in the Rhone. *Lucus Augusti*, a municipium, was demolished by the fall of a rock, which changed the course of the Drome, and formed several ponds, or lakes. Near its site there is a place called Luc.

3. The *Segalauni*. This tribe possessed an inconsiderable territory near the Rhone, below the influx of the Isere, now called the Dutchy of Valentinois; containing—*Valentia*, in the middle age Civitas Valentinorum, now Valence, a few miles below the conflux of the Isere and Rhone. *Cerebelliaca*, now Chabueil, eight or ten miles south of Valence. *Acunum*, Ancona, on an advanced point of land bathed by the Rhone, between Valence and Orange.

4. The capital of the *Tricastini* was *Senomagus*, afterward Augusta Tricastinorum, and Neomagus, now St Paul des trois Chateaux, on the left hand of the Rhone, 15 miles northward of Orange. The name of this tribe is preserved in that of Tricastin.

5. The *Cavares* peopled the south part of Comtat Venaissin, together with the principality of Orange in Provence. *Towns, &c.*---*Avenio*,

Avignon, the capital, an opulent town and colony, above the confluence of the Durance and the Rhone. *Vindalium*, Vedene, where Domitius defeated the Allobroges, above the influx of the Sorgue into the Rhone, and several miles above Avignon. At *Rupes Maurenses*, now Roquemaure, eight miles above Avignon, Hannibal passed over the Rhone in his famous expedition. Marching northward along the left bank of that river, as far as the mouth of the Isere, he settled a succession disputed between two brothers, and directed his route eastward over the site of the modern town of Vizille, a few leagues south of Grenoble. Having traversed the valley of Bourg d'Oisans, watered by the rivulet Romanche, he climbed Mount Lens, then Lauteret, and crossed the Durance at Briancon. With infinite toil he ascended the mountains of Genevre, Sezanne, and Sestries successively, and gained the summit of Fenestrelle; whence he descended by the valley of Pignerol into the plains of Piedmont, five months and fifteen days after his departure from the winter quarters of Carthagena in Spain.

Arausio, also called Colonia Secundanorum, Orange, at the foot of an eminence bathed by a rivulet, on the left hand of the Rhine. *Carpentoracte*, the capital of the Mimeni, a tribe of the Cavares, now Carpentras, north-east of Avignon. *Aeria*, a town in an elevated situation, perhaps on Mount Ventoux, at the extremity of the diocese of Carpentras: a ridge extends thence to the Durance between Sisteron and Forcalquier. *Cabellio*, Cavaillon, on the Durance, 12 miles to the eastward of St Remi.

II. The territories of the *Salues* or *Saluvii* and Salices, a tribe of the Ligures, reached from the springs of the Durance to the Gulf of Lyon, and from the settlements of the Cavares to the Alps. These territories, called NARBONENSIS SECUNDA in the 4th century, contained the following towns and places of note: *Arelate*, Arelas or Arelatus, in Strabo's time a considerable emporium, and by Mela reckoned one of the most opulent towns in Narbonensis, now Arles, in a marshy situation, where

where the Rhone is divided into two branches. On the opposite bank of the river, Constantine built another town, which he called by his own name, now Trinquetaille. Those two branches of the Rhone formed a small island, called Ins. Metapena. *Tarasco*, Tarascon, on the Rhone, north of Arles, in the road to Avignon. *Maritima*, Martigues, near the coast of the Mediterranean, at the efflux of a lake which has a communication with that sea, between *Ostium Massilicnse* or the eastern mouth of the Rhone and Marseille. *Calcaria*, in the middle age Caldaria, at the passage of the rivulet Cadiera 14 miles west north-west of Marselle, in the road to Arles. *Incarus*, Ionquieres, on the sea-coast, 13 miles westward of Marseille, across the gulf *Massilia*, Marseille, a city and port, founded by the Phocaeans, B. C. 600, originally environed on three sides by the sea, noted for its commerce and polite literature, and for its colonies established on the neighbouring coasts. Between Martigues and the eastern mouth of the Rhone, a place now called Foz, marks out the termination of a canal formed by Marius, 12 miles in length, from the left bank of the river to the sea.

Citharista, in the middle age Cisarista, now Ceireste or Ciotat, a port between Marseille and Toulon. *Tauraentum*, Taurente, on the right of the entrance into the bay of Ciotat. *Citharistes Prom.* now Cape Cicier, between Taurente and Toulon. *Telo Martius*, Toulon, anciently a small town, with an excellent harbour. *Pomponiana*, or Pompeiana, now Gruns, between Toulon and St Tropez, opposite to Ins. Prote. *Olbia*, a maritime town fortified by the Marseillians, now the port of Esube, between Cape Combe and Breganson, a few leagues eastward of Toulon. *Insulæ Stoechides*, now the Islands d'Ieres, lie opposite to that part of the coast. Three of these islands were distinguished by names expressive of their relative position with regard to Marseille, viz. Prote, Mese, and Hypoea, i. e. first, middle, and last. *Stoechides Minores* are two small islands near Marseille, viz. Ratoneau and Pomegur. *Heraclea Caccabaria*, St Tropez, a maritime town or port, 16 miles south

of

of Frejus. *Sambracitanus* Sinus, in the middle age Sin. Gambracitanus, the gulf of Grimaud, between St Tropez and Frejus. *Forum Julii*, Frejus, a town with a convenient port formed by art, at the mouth of the river Argenteus, or Argente. *Athenopolis*, afterwards Agathon, now Agay, on a narrow deep inlet of the sea, beyond Frejus. *Lerina* Insula, by Strabo called Planasia on account of its flatness, one of the isles De Sainte Marguerite, about a Roman mile in length and a quarter in breadth, between Frejus and Antibes, near the coast. *Antipolis*, Antibes, a town of the Deciates and a municipium, now Antiboul or Antibes, a colony of Massilians, near the river Var, several leagues westward of Nice.

Inland Towns.---*Aquæ Sextiæ*, Aix, a colony planted by Sextius Calvinus, in memory of a victory which he obtained over the Salyes near the Lar. This place was anciently noted for its hot springs; but they had lost their quality in the time of Sidonius Apollinarius. In that neighbourhood, Marcus defeated the Teutones and Cimbri with great slaughter. *Albece Reiorum Apollinarium*, the capital of the Albiœci, or Reii, a warlike tribe, afterward Civitas Reiensium, in the middle age Regium and Reius, now Riez, on the river Calostre which runs south-west to the Durance. *Sanitium*, Sanctium, Sanetium, or Sanesium, a town of the Sentii, to the eastward of Riez. *Dinia*, Digne, north of Riez, on a rivulet which falls into the Durance. *Forum Neronis*, Forcalquier, a settlement of the Memini, westward of the Durance, and north-west of Riez. *Alaunium*, a town, or station, in the territory of the Memini, about 14 miles south-west of Sisteron, in the road to Apt; but its precise situation is unknown. *Apta Julia*, Apt, a town of the Vulgientes, and a colony, north of Aix, and east of Avignon. *Segustero*, Segesterium, or Sistericum, now Sisteron, near the north border of Provence. *Matavonium*, or Matavone, now Vins, between Peigiere and Frejus, 12 miles westward of Gonfaron. *Forum Voconii*, now Vocon-foron, or Gonfaron, 23 miles west of Frejus, in the road to Aix. *Salinae*, Seillans, south-east

south-east of Riez, in the diocese of Frejus. *Verguni*, in the middle age Vergunnis, now Vergons, to the eastward of Senez, in the road to Glandeves.

ALPES MARITIMÆ, a mountainous territory on the eastern border of Provence, terminating at the mouth of the Varus, or Var, a small river considered as the common boundary of Gaul and Italy; though the natural limit be a chain of mountains at some distance from it, on which *Tropaca Augusti*, now Torbia, was erected between Nice and Monaco. The declivity of that ridge toward the sea forms a point called Cape D'Aglio. The *Vediantii*, or Vesdiantii, occupied the adjacent district; and their principal settlement was *Cemenelium*, or Cémelion, in the middle age Cimela, now Cimies, destroyed by the Lombards in the sixth century: some ruins of it one and a half mile north of Nice are extant.

Ebrodunum, also called Eburodono, Hebriduno, and Eubrono, now Embrun, a town of the Caturiges, near the south-east extremity of Dauphiné, on the right hand of the Durance. *Catoriges*, Chorges, the capital of a cognominal tribe, between Gap and Embrun. *Ictodurum*, at a passage of the rivulet Vence, between Gap and Chorges. *Vapinum*, in the middle age Vappicum, now Gap, north of Sisteron, near *Mons Selucus*, Montsaleon, memorable for the defeat of the tyrant Magnentius. *Rama*, between Briançon and Embrun, near the influx of the torrent Biesse into the Durance. *Brigantio*, or Byrigantium, Briançon, near the source of the Durance. The name of *Quariates*, an inconsiderable tribe, is preserved in that of Queiras, a valley on the left hand of the Durance, between Briançon and Embrun.

By the favour of Augustus, Cottius was permitted to reside at *Segusio*, now Suze in Piedmont, and to reign over several petty states in a mountainous territory called *Alpes Cottiæ*, Mont Genevre.

The *Nantuates* inhabited Chablais, south of the lake of Geneva.

The

The *Veragri* and *Seduni* were planted on the banks of the Rhone, in *Vallis Pennina*, now Valais. *Octodurus*, by Cæsar called Vicum Veragrorum, afterward Forum Claudii, now Martigni, or Martinach, on the Durance, near its influx into the Rhone; this town was a bishop's see before the sixth century. *Penni-lucus*, Pennelocos and Pennolucos, now Penne, an obscure place on the right bank of the Rhone, several miles above its influx into the lake of Geneva.

The *Centrones* and *Medulli* were cantoned in those parts of Savoy which approached the sources of the Isere. *Darantasia*, now Monstiers, on a road which proceeds eastward across Alpes Graiæ. *Forum Claudii*, now Centron, between Monstier and Axima, or Aisme. *Bergintrum*, St Maurice, between Aisme and *Alpes Graiæ*, or little St Bernard. *Obilunum*, Oblimum, Bilumnum, Obilonna and Obelon, to the northward of Monstier, not far from the site of Conflans.

GALLIA LUGDUNENSIS.

Gallia Lugdunensis, so called from Lugdunum the capital, and sometimes Celtica from Celtæ the general appellation of its inhabitants, extended from the Rhone westward to the ocean; on the south bounded by Aquitania, and on the north by Belgica. At first it was divided into two, and afterwards into four parts, viz. Lugdunensis prima, secunda, tertia, and quarta.

1. LUGDUNENSIS PRIMA comprehended almost the whole of the modern provinces of Lyonois, Nivernois, and Bourgogne; and was peopled by the following tribes.

1. The *Segusiani* were planted between the Rhone and the Loire. *Towns*, &c. *Lugdunum*, or Lugudunum, built or enlarged by Minutius Plancus in the reign of Augustus, a considerable town in Strabo's time, on the right bank of the Saone. The city now called Lyon, between the Saone and Rhone, was built in the reigns of Louis XII. and Francis

I. On its site an altar called Ara Lugdunensis was erected by Augustus A. U. C. 752, and in the same place games were instituted by Caligula. *Forum Segusianorum*, Feur, the capital of a small district afterward called *Pagus Forensis*, or Forez, to the westward of Lyon, on the Loire. *Rhodumna*, Rouane, below Feur, in the road to Nevers.

2. The *Ædui*, one of the most powerful and opulent nations in Gaul, and styled the friends of the Romans, occupied the south parts of Bourgogne and Nivernois, viz. the dioceses of Autun, Challon, Macon, and Nevers. *Towns, &c.—Bibracte*, also called Julia and Flavia, afterward Augustodunum, now Autun, on the Arroux a small river which runs southward to the Loire. This town was anciently large, well fortified, and populous. *Caballinum*, Cabillonum, Caballinon, Caballodunum, now Chalon on the Saone, where several Roman ways centre. *Matisco*, or Mastico, now Mascon, or Macon, on the Saone, between Chalon and Lyon. *Lunna*, on the common boundary of Maconnois and Beaujolois, in the road between Lyon and Macon. *Tinurtium*, Tournus, between Chalon and Macon, on the Saone. *Pocrinium*, Perrigni, on the right bank of the Loire, in the road from Nevers to Lyon. *Telonnum*, Toulon, on the Arroux, about 22 miles south of Autun. *Aquæ Nisineii*, now Bourbon-L'Anci, noted for its mineral springs, between Decise and Perrigni. *Decetia*, Decise, in an island of the Loire between Nevers and Bourbon-L'Anci. *Noviodunum*, in the middle age Nividunus and Nivernis, now Nevers, on the Loire, at the west extremity of the territory of the Ædui. *Sidolocum*, now Saulieu, about 27 Roman miles north of Autun, in the road to Auxerre. *Alesia*, a town of the Mandubii, on the summit of Mount Auxois, besieged and taken by Cæsar, a place of some note under the Emperours, entirely destroyed in the ninth century.

3. The *Lingones*, a considerable tribe, by Pliny denominated Roman Allies, established themselves on the right of the Saone, near the source of the Marne, in the diocese of Langres which formerly included that

of Dijon. *Andematunum*, or Andomadunum, Civitas Lingonum of Tacitus, now Langres, on an eminence near the south-east extremity of Champagne. *Segessera*, perhaps Bar-sur-aube, between Corbeil and Langres, near the north boundary of the territory of Lingones.

II. LUGDUNENSIS SECUNDA was of the same extent nearly with Normandy, and peopled by various tribes.

1. The *Veliocasses*, sometimes called Vellocasses and Veneliocasii, on the right hand of the Seine, in the diocese of Rouen. *Rotomagus*, Ratomagus, Rattumagus, Rotomum, Rodomum, now Rouen, the capital, on the Seine, between Paris and Lilebonne. *Petromantalum*, sometimes Petrum-viaco, now Magni, between Paris and Rouen. *Ritumagus*, a fortress in the middle age, near Radepont on the Andelle, 12 miles from Rouen in the road to Paris.

2. The *Caleti*, or Caletes, on the south coast called Littus Saxonicum, north of the mouth of the Seine, in the district of Caux. *Juliobona*, in the middle age Juliabona and Luliobona, now Lilebonne, a town built by Cæsar on the ruins of Caleta, near the mouth of the Seine. *Carsicotinum*, perhaps Harfleur, in the middle age called Hare-fleet, the termination of a Roman way on the sea-coast, 15 miles west of Lilebonne.

3. The Lexovii, on the sea-coast, on the left of the Seine, between the Carnutes and Viducasses. *Noviomagus*, or Neomagus, afterward Lexovii, now Lisieux, an inland town.

4. The *Aulerci Eburovices*, above the Lexovii, on the left hand of the Seine. *Mediolanum Aulercorum*, afterward Eburovices, Civitas Eburovicum or Ebroicorum, in the middle age Ebroicæ or Ebroas, now Evreux, near the eastern boundary of Normandy. *Uggade*, a place of passage over the Seine, now Pont de L'Arche, 12 miles south of Rouen in the road to Evreux.

5. The *Saii*, to the westward of the Aulerci, near the south border of Normandy, in the diocese of Seez. *Saii*, Seez, the capital, on the river Olina or Orne, about 40 miles south of Lisieux.

6.

6. The *Viducasses*, a colony of the Ædui, below the Saii, on the Orne, in the diocese of Baieux. *Viducassium* Civitas, now called Vieux, near the left bank of the Orne, above Caen.

7. The *Bajocasses*, on the sea-coast, in a district watered by the Aure. *Araegenus*, afterwards Civitas Bajocassium, now Baieux, north-west of Cademum or Caen, not far from the coast.

8. The *Unelli*, or *Venelli*, were planted along the west coast of Normandy. *Coriallum*, now Gouril, a small harbour under Cape de la Hague. *Crociatonum*, Valognes, an inland town, south of Cherbourg. *Constantia*, Coutances, on the coast opposite to three islands in the Channel, viz. *Cæsarea*, or Jersey; *Sarnia*, Guernsey; *Riduna*, Alderney *Grannonum*, perhaps Granville, on the coast south of Coutances.

9. The *Abrincatui* possessed a small district, now called Avranchin, near the south-west extremity of Normandy. *Ingena*, or Civitas Abrincatum, the capital of that district, now Avranches, several miles inland from the bottom of a bay of the British Channel.

III. LUGDUNENSIS TERTIA, comprehended the provinces now called Bretagne, Maine, and Anjou, with a part of Touraine; inhabited by many different tribes, the most considerable of which were as follows, *viz.*—

1. The *Turones*, sometimes called Turoni, and by Ptolemy Turupii. *Cæsarodunum*, afterward Turones, their capital, now Tours on the Liger, or Loire, or in the vicinity of that city.

2. The *Andes*, Andecavi, or Andegavi, in Anjou. *Juliomagus*, afterward Andecavorum Civitas, in the middle age Andegavis, now Angers, on the river Mayenne not far above its influx into the Loire. *Robrica*, now Longue Bridge, Briga, or Briva, in Celtic signifying a bridge, 24 miles eastward of Angers, in the road to Tours, on the right hand of the Loire. *Combaristum*, Combrée, in the road between Rennes and Angers.

3. *Aulerci Cenomani*, in the diocese of Mans. *Suindinum*, or Subdînum, afterward Cenomani, now Mans, on the river Sarte.

4. *Diablintes*, also Diablitæ and Diaulitæ, in Maine. *Neodunum*, afterward Diablintes, now Jublens, north-west of Mans, on the left hand of the Mayenne. In the middle age a part of their territory was called Condita Diablintica.

5. *Arvii*, in the south-west district of Maine, on the border of a river which falls into the Sarte. *Vagoritum*, the site of which may be traced near the small river Arve, or Erve. The diocese of Mans now contains the districts of the Cenomani, Diablintes and Arvii.

6. *Redones*, in the dioceses of Rennes, St Malo and Dol in Bretagne. *Condate*, afterward Redonæ, Rennes, an inland town, at the influx of a small river into the Vilaine. *Aletum*, on a point of land, near the burgh of St Servan. It became an episcopal see, which was translated to the island of Aaron, or St Malo, in the twelveth century. An archdeaconry in that diocese is called Poulet, from Pagus Aletensis.

7. *Namnetes*, in the diocese of Nantes, between the Andecavi and the sea-coast, on the north side of the Loire. *Condivienum*, or Civitas Namnetum, Nantes, on the Loire at the influx of the Erdre. *Corbilo*, mentioned by Pytheas as one of the richest towns in Gaul, a sea-port on the Loire, perhaps Coeron, several miles below Nantes.

Veneti, in a territory by Cæsar called Venetia, now Vannes, separated from the Namnetes by the river Herius, or Vilaine. *Dariorigum*, afterward Civitas Venetum, now Durouee, about a mile below Vannes, and insulated twice a day by the sea. *Vindana Portus*, now Mor-bihan, which signifies small sea, below the capital. Opposite that bay are several small islands called Insulæ Veneticæ, the most noted of which is *Vindilis*, now Belle Isle.

9. *Curiosolites*, or Cariosuelites, on the east bounded by the Redones, south by the Veneti, west by the Osismii, north by the sea, in the dioceses

ceses of St Brieuc and St Malo. Their capital may be traced in Corseult, between Dinan and Lamballe.

10. *Osismii*, on the north-west coast of Bretagne, in the dioceses of Quimper and Leon. *Vorganium*, afterward Vorgium, now Karhez, an inland town in Quimper, on the small river Aven. *Uxantis Insula*, sometimes Axantis, Ushant, or Ouessant, an island opposite to the western extremity of Bretagne. *Gobæum Prom.* now Cape Mahe and Finisterre. *Staliocanus Portus*, now Port Sliocan, at the bottom of Leo-christ a road near Cape Mahe. *Brivates Portus*, or Gesobrinate, now Brest.

11. *Corisopiti*, not mentioned before the fifth century, in the south-west corner of Bretagne. Their territory in the middle age was called *Corisopitensis*, now Quimper. Opposite to the west coast lies the island of *Sena*, or Saine, improperly called Isle des Saints, south of Brest.

The six tribes last mentioned, together with the Unelli, Abrincatui, Bajocasses, Viducasses, and Lexovii, were styled *Armorici* from their vicinity to that part of the sea-coast which extends from the Loire to the Seine, the term Armorica denoting a country bordering on the sea.

IV. Lugdunensis Quarta, or Senonia, included part of Orleanois, of Isle de France and of Champagne. The principal tribes with which it was peopled were the following, *viz.*—

1. The *Senones*, a brave nation in an extensive territory, on the left hand of the river Sequana or Seine, in the dioceses of Sens and Auxerre. *Towns*, &c.—*Agedincum* afterward Senones, by Ptolemy Agedikon, in the Theodosian table Agetincum, now Sens, the capital, below the confluence of the rivers Vanne and Yonne. *Antissodurum*, or Antesiodorum, Auxerre, in the north-west corner of Bourgogne. *Melodunum*, also called Metiosedum, Mecletum, Methetum, Meteglum, in the middle age Mecledo, now Melun, on an island of the Seine, 28 miles above Paris. *Condate*, Montereau, at the conflux of the Yonne and Seine. The name Condate is common to several places, and denotes a situation in

in an angle formed by the junction of two rivers. *Brivodurum*, in the middle age Brioderum, now Briare, on the right bank of the Loire, between Orleans and Nevers. *Condate*, Cosne, between Briare and Nevers, on the Loire. *Massava*, now Messve or Meves, between Cosne and Nevers, on the Loire. *Vellaunodunum*, Beaune in Gatinois, in the middle age called Villa Belna and Vellauna, between Orleans and Sens, 30 miles from the former and 40 from the latter.

2. *Carnutes*, an ancient and powerful tribe, in Orleanois, between the Seine and the Loire. *Towns*, &c.—*Autricum*, afterwards Carnutum, now Chartres, near the north boundary of Orleanois, in Pays Chartrain, on the Autara or Eure. *Durocasses*, or Durocasis, afterward Drocæ, now Dreux, about 20 miles north of Chartres, and 25 south of Evreux. This town, sometime called Druidæ and Droium, was the principal seat of the Druids in Gaul. *Salioclita*, in the middle age Salclita and Sarclita, now Saclas, 36 miles from Orleans in the road to Paris.

3. *Parisii*, north of the Carnutes and Senones, in the middle of Isle de France. *Lutetia*, by Strabo called Lucotocia, afterwards Leucetia, Paris, originally a fortress upon a small island of the Seine.

4. *Aureliani*, south of the Carnutes and west of the Senones, in a district of Orleanois traversed by the Loire. *Genabum*, or Cenabum, afterward Aurelianum, now Orleans, anciently a town of note where several Roman ways centered, on the Loire.

5. *Meldi*, in the diocese of Meaux. *Iatinum*, or Fuxtuinum, afterward Meldi, now Meaux, on the Marne, 24 miles south south-east of Senlis, and 27 eastward of Paris.

6. *Tricasses*, or Tricassini, afterward Trecæ and Treci, in south Champagne. *Augustobona* or Augustomana, afterward Tricassas and Trecæ, now Troyes, on the Seine. *Corobilium*, Corbeille, on the Roman road between Chalons and Langres. *Artiaca*, Arci-sur-aube, between Troys and Chalons, 18 miles from the former, and 33 from the latter.

AQUITANIA.

Before Cæsar invaded Gaul, the subjection of Aquitania was twice attempted by the Romans; once by C. Valerius, and again by Manilius. Anciently bounded by the Loire and Garonne, and divided into prima and secunda, this province in the reign of Augustus was enlarged by the addition of a district between the Garonne and Pyrenees called Novempopulana.

Aquitania Prima comprehended several inland modern provinces, viz. Berri, Marche, Auvergne, Limosin, Quercy, Rouergue, and a portion of Languedoc. The names of the tribes which had settled in those parts are as follows:

1. The *Bituriges*, in Berri, to the westward of the Loire. *Towns, &c.*—*Avaricum*, afterward Bituriges, the capital, peninsulated by a marsh and the river *Avara* or Eure, a large and well fortified place, with a garrison of 40,000 men when besieged and taken by Cæsar. *Gabris*, afterward Carobriæ and Carbriæ, now Chabris, at a passage of the Cher, between Bourges and Tours. *Ernodurum*, now St Ambroise, on the Arnon, between Argenton and Bourges, 27 Gaulish leagues from the former and 13 from the latter. *Argentomagus*, Argenton, between Poitiers and Bourges. *Tinconcium*, or Tinconcio, in the middle age Tincentium, now Sancoins, 21 leagues or 32 Roman miles south of Bourges. *Aquæ Bormonis*, Bourbon l'Archambault, to the westward of Moulins, at some distance from the Loire. *Aquæ Neræ*, Neris, about 23 miles west of Cantilia or Old Chantelle.

2. *Arverni*, a powerful tribe in Auvergne. In the time of Strabo they extended from Marseille to the Pyrenees, and from the ocean to the Rhine; but their territory is now represented by the dioceses of Clermont and St Flour. *Augustonemetum*, or Civitas Arvernorum, in the middle

middle age Mons Clarus, now Clermont. *Gergovia*, in the time of Cæsar, a strong town and fortress, on the summit of Mount Gergoie. *Brivas*, Brioude, on the Aller, south of Clermont.

3. *Lemovici*, Lomouici, or Limuici, in Limosin. *Augustoritum*, Limoges, the capital.

4. *Cadurci*, in Quercy, on the river Oltis or Olt. In the middle age their territory was denominated Cadurcinum. *Divona*, afterward Cadurcinum, Cadurcum, Dueona, now Cahors, on the Olt. *Uxellodunum*, perhaps Puech d'Issolu, north-east of Cahors, on the right hand of the Dordogne, near the frontier of Limousin.

5. *Ruteni*, in Rouergue. *Segodunum*, sometimes Segodum, in the middle age *Rutena*, now Rodez, the capital. *Albiga*, Alby, on the Tarn, in Languedoc.

6. The *Gabali* and *Vellavi*, or Velauni, were two inconsiderable tribes south of the Arverni, in the western part of Languedoc. *Anderitum*, afterward Gabali, now Javoli, Javols, or Javoux, in the diocese of Mende. *Revessio*, afterward Vellava Ruessium, and Vellai, now St Paulien, or Paulhan, in the diocese of Pui.

AQUITANIA secunda extended southward along the coast from the Loire to the Garonne, and was peopled by the following tribes, viz.

1. *Bituriges* Vibisci, or Vivisci, near the mouth of the Garonne in Bourdelois. *Burdigala*, Bourdeaux, the capital, on the Garonne, the birth-place of Ausonius, and a famous seat of the muses.

2. *Meduli*, in Medoc, a small district between the lower part of the Garonne and the ocean. *Antros* insula, an island in the mouth of the Garonne. On the border of that river, opposite to Royan, there is at present a spot which appears to have been anciently insulated.

3. *Petrocorii*, in Perigord, to the right of the lower part of the Garonne. *Vesuna*, surnamed Augusta, afterward Petrocorii, now Perigueux, or Visone in its neighbourhood.

4.

4. *Nitiobriges*, or Nitiobroges, in a territory watered by the Olt or Lot, and more extensive than the diocese of Agen, in Guienne. *Aginnum*, or Agennum, Agen, the capital of that tribe, on the Garonne, near the confines of Gascogne. *Ussubium*, or Vesubio, perhaps Urs, not far from the Garonne, and north-west of Agen in the road to Bourdeaux.

5. *Santones*, north of the Garonne, along the sea-coast, in the dioceses of Saintes and Angouleme, and territory of Aunis. *Towns*, &c.—*Mediolanum*, or Mediolanus Santonum, afterward Santonus and Santoni, now Saintes, the capital, on the river Charente. *Santonum Portus*, now the mouth of the Seudre, between the rivers Charente and Garonne. *Tamnum*, sometimes Lamnum, now old Talmon, at some distance from the modern town of this name, between Saintes and Bourdeaux. *Novioregum*, now a mean fishing town called Royan, at the mouth of the Garonne, opposite to the Island of Antros. *Iculisma*, Angouleme, an inland town to the eastward of Saintes, on the Charente. Ausonius calls Iculisma a solitary place; but, afterward, it flourished and became a bishop's see. *Insula Ularius*, the Island of Oleron, lies opposite to the mouths of the Charente and Seudre.

6. The *Pictavi*, or Pictones, were planted between the Santones and the river Loire in Poitou. *Limonum*, afterward Pictavi, now Poitiers, the capital, where several Roman ways centred, on the Clain, about 60 miles south south-west of Tours, and 75 from the sea-coast. *Rauranum Prom.* in the diocese of Poitiers, about 25 miles south-west of Poitiers in the road to Saintes. *Aunedonacum*, in the middle age Auderacum, now Aunai, about 24 miles north-east of Saintes, in the road to Poitiers. *Brigiosum*, in the middle age Briossium, now Briou, in the road between Saintes and Poitiers, eight or ten miles beyond Aunai. *Sicor Portus*, near a tract on the sea-coast called the sands of Olone. *Ratiatum*, or Ratiastum, now St Pierre de Retz, to the left of the mouth of the Loire, not far from the coast, in the Dutchy of Retz.

7. *Agesinates*, an inconsiderable tribe, whose name may be recognised in Aisenai, an archdeanery in the diocese of Lucon.

NOVEMPOPULANA, the south-west corner of France, between the river Garonne and Pyrenean Mountains, was inhabited by the following tribes, viz.—

1. The *Elusates*, who occupied the north-west district of Armagnac. *Elusa*, or Civitas Elusatium, demolished by the Normans in the ninth century, now Ciotat near Euse.

2. *Ausci*, in Armagnac *Climberris*, or Augusta, afterward Ausci, sometimes Ciberris, destroyed by the Normans, now Auch, on the river Ger which runs northward and falls into the Garonne above Agen.

3. *Sotiates*, Sontiates, Sottiates, or Sotiani, in Sos, a district of Condomois. *Sotiatum*, in the middle age Sotium, and Sotia, the capital, now Sos, in the diocese of Auch, about 35 miles south-east of Bazas.

4. *Lactorates*, an inconsiderable tribe, north of the Ausci, on the left hand of the Garonne. *Lactora*, or Civitas Lactoratensis, now Leitoure, about 22 miles southward of Agen in the road to Toulouse.

5. *Vasates*, sometimes Vasarii, in the diocese of Bazas. *Cosio*, afterward Vasatas, now Bazas, the capital, about 12 miles south of the Garonne, and 58 from the sea-coast.

6. *Boii*, in the vicinity of fluv. Sigmanus, sometimes Igmanus, and Signatius, now Arcachon, a small bason on the sea-coast into which the Loire falls, about 30 miles south-west of Bourdeaux. The name of that tribe is preserved in Buch. *Curianum Prom.* is now Cape Buch. Another colony of the Boii was planted among the Ædui.

7. *Tarbelli*, along the sea-coast, between the settlements of the Boii and Pyrenean Mountains. *Aquæ Augustæ*, Aqs, or Dax, the capital, an inland town bathed by the river Adour. *Segosa*, now Escousse, or Escourse, about 38 miles northward of Aqs, in the road to Cape de Buch. *Lapurdum*, Bayonne, near the mouth of the Adour, and south-west extremity

tremity of France. A district between the rivers Adour and Bidassoa, is still called Labourd. *Beneharnum*, first mentioned in the itinerary of Antoninus, and destroyed by the Saracens, or Normans, was situate between Aqs and Oleron, not at Lescar, but somewhere in the neighbourhood of Orthez. *Iluro*, Civitas Elloronensium, now Oleron, on the Gave, about 45 miles south south-east of Aqs. *Vicus-Juli*, or Atures, in the middle age Adura, below the confluence of the Adour and the Larsie. *Lactora*, Lactorates and Civitas Lactoratensis, now Leytoure, on the Ger, between Auch and the Garonne, about 23 miles south of Agen.

8. *Bigerrones*, in the diocese of Bigorre, at the foot of the Pyrences. *Turba*, or Bigorra, afterward Tarbia and Tarba, now Tarbe, on the Adour, about 42 miles south south-west of Auch, and 70 south-east of Aqs.

9. *Convenae*, in the diocese of Cominge. *Lugdunum*, afterwards Convenae, et Civitas Convenarum, destroyed by Gontram in 585; now called St Bertrand, from a Bishop of Cominge who founded a new town on the ruins of the ancient city. There are some remains of antiquity at the foot of the mountain, near the Garonne, in Vallis Capraria, or Val-Cabrere.

10. *Consoranni*, in the diocese of Conserans, on the border of Languedoc. *Consorannorum*, the capital, now St Lisier, on the river Sarlat, about 30 miles to the eastward of St Bertrand.

GALLIA BELGICA.

Belgica, according to Cæsar's division of Gaul, was bounded on the west by the Seine, on the east by the Rhine, on the north by the ocean; but the southern limit, varying at different periods, cannot be precisely ascertained. To that province Augustus added the territories of the Sequani and Helvetii, which, till then, formed a part of Gallia Celtica.

Belgia Propria, distinguished from Belgica as a part from the whole, included the settlements of the Bellovaci, Atrebates, and Ambiani, and reached to the sea coast.

Gallia Belgica was divided into prima and secunda, Germania prima and secunda, and Maxima Sequanorum.

I. BELGICA PRIMA comprehended the greater part of Loraine and Treves, together with some adjacent districts, and was inhabited by the following tribes, viz.

1. The *Treveri*, or Treviri, in the electorate of Treves. *Towns*, &c. —*Augusta Trevirorum*, afterward Treveri, now Treves; a Roman colony under Augustus, the residence of several emperours after Constantius Chlorus, and sometime the capital of Belgica Prima, below the junction of the Saravus or Sar and the Moselle. *Noviomagus*, or Neomagus, Numagen, below Treves on the Moselle. *Orolaunum*, Arlon, in the road between Treves and Rheims. *Meduentum*, Moyen, on the right hand of the Semor, about 20 miles west of Arlon.

2. The *Mediomatrices* anciently occupied a territory of great extent, but after the conquest of Gaul by Cæsar, they cannot be traced beyond their settlements in Belgica Prima. In the middle age Pagus Metensis was of the same extent with the diocese of Metz. *Divodurum*, afterward Mediomatrici and Mettis, now Metz, the principal town of that tribe. *Decempagi*, now Dieuze, about 32 miles south-east of Metz. *Iblodurum*, i. e. the passage of a river called the Iron, about three miles above its influx into the Orne, between Verdun and Metz.

3. *Leuci*, in Lorraine, above, i. e. south of the Mediomatrices, on the Moselle, towards Mons Vogesus, now Mont de Vauge. *Tullum*, sometimes called Leuca from its ancient inhabitants, now Toul, on the Moselle, above Metz. *Nasium*, Naes, or Nas, 25 miles west south-west of Toul, on the river Ornez. *Scarpona*, anciently a place of some note, now Charpagne on the Moselle, between Toul and Metz. *Solimariaca*, Soulosse,

Soulosse, in the road between Toul and Langres. *Noviomagus*, Neuville, between Toul and Langres, a few miles south of Soulosse.

4. *Verodunenses*, in Lorraine, north of the Leuci, on the river Mosa or Meuse. *Verodurum*, in the middle age Viredunum and Virdunum, now Verdun, on the Meuse, westward of Metz, in the road to Rheims.

II. BELGICA SECUNDA lay between the river Meuse and the British Channel, and contained the following tribes, viz.

1. The *Remi*, in the diocese of Laon, or north part of Champagne. *Durocortorum*, sometimes Duricortora, afterward Athenæ Remorum and Novæ, now Rheims, on the Vesle which falls into the Aisne above Soissons. *Vungus Vicus*, now Vone, near the Aisne, a little above Attigni, north-east of Rheims, in the road to Treves. *Axuenna*, which denotes a passage over the Axonæ or Aisne, refers to two positions; the one is the modern Neuville, and the other north of Rheims, between Neuchatel and Avaux. *Minaticum*, now Nizi-le-comte, in the road from Rheims northward to Vervins. *Bibrax*, Bievre, about eight miles north-east of Pont-a-vere, on the Aisne, in the road from Rheims south-east to St Quentin. *Contra Aginnum*, Condran, between St Quentin and Soissons, about 16 miles from the former and 18 from the latter.

2. *Catalauni*, in the middle of Champagne. *Catalaunum*, or Duro-Catalaunum, afterward Catalauni, now Chalons, 24 miles south-south-east of Rheims, on the Marne. *Ariola*, Vroil, south-east of Chalons, about 24 miles south-east of Cheppe, and 27 north-west of Nais. *Fanum Minervae*, Cheppe, north-east of Chalons, on a Roman way between Rheims and Toul. Eutropius mentions a victory gained by Aurelian over Tetricus apud Catalaunos.

3. *Suessiones*, in the north district of Isle de France. *Augusta Suessonum*, afterward Suessiones and Ouessones, in the middle age Uessona, now Soissons, on the river Aisne.

4. *Veromandui*, north of the Suessiones, in the south-east part of Picardie. *Augusta Veromanduorum*, the capital, in the middle age Virmandense Oppidum, now St Quentin, on the right hand of the *Samara*, or Somena, Some, a river which runs through Picardie, and loses itself in the British Channel. *Noviomagus*, in the middle age Noviomum, now Noyon, in Vermandois, in the road between Soissons and Amiens, 27 miles from the former, and 42 from the latter.

5. *Bellovaci*, by Strabo called Belloaci, a numerous and powerful tribe, whose territories extended beyond the diocese of Beauvais. *Cæsaromagus*, afterward Bellovaci, in the middle age Civitas Bello-Vacorum, Belvacus and Belvacum, now Beauvais. *Bratuspantium*, about half a mile from Breteuil, between Beauvais and Amiens. This town is not mentioned after Cæsar's time.

6. *Silvanectes*, on the left bank of the Oise, opposite to the Bellovaci. *Augustomagus*, or Silvanectæ, now Senlis, the capital, between Beauvais and Soissons.

7. The *Ambiani*, planted near the bank of the Samara, or Some, held a distinguished rank among the Belgic tribes. *Pagus Ambianensis*, or Amienois, was a portion of their territories, near the centre of Picardie. *Samarobriva*, afterward Ambianensis Civitas, now Amiens on the Some. *Setuci*, now Cayeux, about 15 miles from Amiens in the road to Soissons. *Rodium*, Roie, or Roie-eglise, between Amiens and Noyon. *Curmiliaca*, Cormeilles, between Amiens and Beauvais, 20 miles from the former, and 17 from the latter. *Teucera*, now Tievre, between Amiens and Arras, and equidistant nearly from both.

8. *Atrebates*, north of the Ambiani, in Artois. *Nemetacum*, or Nemetocenna, in the lower age Atrebatæ, now Arras, between Amiens and Tournay, and between Terouenne and Cambray. *Origiacum*, or Rigiacum, now Orchies, a mean place in Flanders, about 25 miles north-east of Arras.

9.

9. *Morini*, in a maritime territory, which comprehends the dioceses of Boulogne and St Omer. *Tarucnna*, surnamed Ponticum, now Terouenne, razed to the ground by Charles V. Emperor of Germany. *Minariacum*, about 33 miles to the eastward of Terouenne, on the border of the Lis. *Gessoriacum*, afterward Bononia, Boulogne, a noted seaport frequented by the Romans. *Castellum Morinorum*, Cassel, an inland place, east of Boulogne. *Itius Portus*, now Whitsand, or Wissant, a seaport, where Cæsar embarked for Britain, between Calais and Boulogne. *Itium Prom.* now Gris-ness, near Whitsand, on the British Channel.

10. *Nervii*, a brave and powerful tribe, in the ancient diocese of Tournay, which included those of Gand and Bruges, and reached to the sea-coast. *Bagacum*, in the ninth century called Nervius Bavacum, now Bavai, anciently the capital of the Nervii, and in the lower age a fort or castle only. *Vodgoriacum*, now Voudrei, a mean place, north-east of Bavai, on a Roman road to Tongres. *Camaracum*, the capital of the Nervii after the decline of Bavacum, now Cambray. *Turnacum*, Tournay, in Flanders, sometime the residence of French kings. *Viroviacum*, Vervik, 22 miles north-west of Tournay, in the road to Cassel. *Cortoriacum*, Courtray, north of Tournay, and north-east of Vervik. *Duronum*, now Estrun-Cauchie, a passage over a small river, between Bavai and Vervins. *Quartensis Locus*, Quarte, on the border of the Sambre, between Bavai and Estrun-Cauchie. *Hermonacum*, now Bermerain, about 12 miles from Bavai, in the road to Cambray. *Fanum Martis*, now Fammars, near Valenciennes, where some vestiges of antiquity are extant. *Pons Scaldis*, a bridge on the Scheld, between Valenciennes and Conde.—*Scaldis Fluvius*, the Tabuda of Ptolemy, now the Escaut or Scheld. The mouth called the east Scheld, was probably the original issue of this river. The west Scheld, or Hont, was at first a small stream, enlarged by Otho I. in the tenth century, and from him named Fossa Othonis. By currents and the encroachment of the sea, several changes in the mouths of the Scheld

Scheld have been effected. A tribe called *Levaci* settled in the territory of the Nervii, on the Lieva which falls into the Scheld at Gand and in 1339 served for opening a canal from Gand to Damm.

III. MAXIMA SEQUANORUM, included Franchecomté and a great part of Switzerland.

1. The *Sequani*, one of the most powerful nations in Gaul, seated between the river Arar, or Saone, and Mount Jura, were separated from the Helvetii by that chain of mountains, and from the Leuci by *Mons Vogesus*, or Vauge. On the west they were bounded by Ædui and Lingones, on the south by the Ambarri and Allobroges.

Towns, &c.—*Vesontio*, or Civitas Vesontiensium, now Besançon, the capital, on the river Dubis, or Doux, near the centre of Franchecomté.—This city was peninsulated by the river, and, on the isthmus, was defended by a steep hill, whose base reached 1500 Roman feet across that neck of land. *Filomusiacum*, perhaps Usie or Malloe, about 22 miles southward of Besançon in the road to Pontarlier. *Ariolica*, Pontarlier, about 28 miles south south-east of Besançon, in the road to Orbe. *Loposagium*, Luciol, north-east of Besançon on the Doux. *Epamanduodurum*, Mandeure, about 48 miles north-east of Besançon. *Velatodurum*, perhaps Pont-pierre, a passage over the Doux near Clereval above Luciol. *Segobodium*, Seveux, on the border of the Saone, north-west of Besançon, in the road to Langres. *Portus Abucini*, Port-sur-Saone, north of Besançon, between Vesoul and Jussey. The adjacent territory was called *Pagus Portisiorum*, or Portois. *Luxovicum*, or Lixovium, now Luxeul, north-east of Port-sur-Saone, in the north-east corner of Franchecomté. *Didatium*, near the north border of Franchecomté, to the eastward of Langres. *Aquæ Borvionis*, now Bourbonne-les-bains, about 20 miles north-east of Langres.

2. The *Helvetii* were planted between Lacus *Lemanus*, the Lake of Geneva, and Lacus *Brigantinus*, the Lake of Constance. When Cæsar entered

entered into Gaul, Helvetia was divided into several cantons, which contained 12 towns and 400 villages. In the time of Tacitus, that province comprehended the whole tract lying between the Hercynian forest and the Rhine. *Aventicum*, Avanche, the capital, a Roman colony under Trajan, on a small lake called Morat, to the eastward of Lake Neufchatel.

Tigurinus Pagus, one of the four cantons into which Helvetia was divided by Cæsar, comprehended the modern cantons of Zurich, Switz, Schaffhausen, and the abbey of St Gall. *Urbigenus*, or Verbigenus Pagus, extended from the river Sana to Mount Jura, including the cantons of Friburg and Bern, together with the counties of Vallengin and Neuffchatel. *Towns*, &c.—*Noiodunum*, or Colonia Equestris, sometimes called Julia, now Nyon, 12 miles northward of Geneva on the border of the lake. *Urba*, Orbe, on a cognominal river, 24 miles south-east of Pontarlier. *Salodurum*, Soleure or Solothurn, on the Aar, a river which runs north-east to the Rhine. *Ebredunum*, or Castrum Ebredunense, Iverdun, at the south extremity of Lake Neuffchatel. *Minnodunum*, or Minnidunum, Moudon, on a Roman way, between Vevay at the east end of Geneva lake and Avanche. *Bromagus*, or Viromagus, now Promazens, between Moudon and Vevay. *Viviscus*, Vevay, on the border of the Lake of Geneva. *Turicum*, in the lower age Turegium, now Zurich, at the northern extremity of a cognominal lake. *Aquæ Helveticæ*, Baden, on the river Limat, below Zurich. *Forum Tiberii*, perhaps Keyserstuhl, i. e. Cæsaris Solium, on the Rhine, north of Zurich. *Vindonissa*, Windisch, on the Aar, a few miles north-west of Baden. *Vitodurum*, Winterthur, about 14 miles north-east of Zurich. *Lacus Venetus*, or Brigantinus, now Bodensee, or L. Constance.

3. The *Rauraci*, or Raurici, occupied a territory now called the diocese of Basil, bathed by the Rhine. *Augusta Rauracorum*, also called Rauraci and Rauracum, afterward Castrum Rauracense, a Roman colony, now Augst, on the Rhine above Basil. *Basilia*, in the middle age

Basela and Basula, now Basil, first mentioned by Ammianus Marcellinus. *Arialbinnum*, Binning, about nine miles from Augst. *Mons Vocetius*, a branch of Mount Jura, approaches the Rhine above Augst, and is now called Boets-Berg.

IV. GERMANIA PRIMA, or Superior, a tract on the left bank of the Rhine, now called Alsace, was inhabited by various tribes.

1. The *Triboci*, or Tribochi, occupied the diocese of Strasburg. *Argentoratum*, sometimes Argentora and Argentina, in the 16th century called Stratæburgus, now Strasburg, on the rivulet Ill, near the Rhine, where one of the 50 forts of Drusus was built, and where Julian, A. D. 357, defeated the Alemanni. *Helcebus*, Helvetus or Helellus, now Ell, south of Strasburg, on the right bank of the Ill, opposite to Benfelden. *Argentovaria*, first mentioned by Ptolemy, now Artzen-heim, near the Rhine, between Strasburg and Basil, where the Alemanni, A. D. 378, were defeated by Gratian. *Tabernæ*, Saverne or Zabern, north-west of Strasburg. *Brocomagus*, in the middle age Bruochmagat, now Brumat, north of Strasburg, at some distance from the Rhine.

2. The *Nemetes* were situated between the Vangiones and Triboci, in the bishopric of Spire, in Lower Alsace. *Noviomagus*, Neomagus, or Civitas Nemetum, now Spire, on the left bank of the Rhine. *Vicus Julius* and *Tabernæ* were two places on the Rhine, between Spire and Seltz. *Saletio*, Saliso and Saloissa, now Seltz, almost midway between Spire and Strasburg; its ancient site is partly overflown by the Rhine. *Concordia*, now Alt-stat, on the Lauter, between Weissembourg and the Rhine. *Alta-Ripa*, Altrip, a station below Spire, in a confined bottom formed by an inflexion of the Rhine, above the mouth of the Neckar.

3. *Vangiones* and *Carcates*, north of the Nemetes, in the palatinate of the Rhine. *Towns, &c.*--*Borbitomagus*, or Brotomagus, afterward Vangiones, in the lower age Wormatia, now Worms, on the Rhine, below Spire. *Bonconica*, near Oppenheim, between Mayence and Worms. *Mogontiacum*, Maguntiacum, Mocontiacum, Mogontiacus, in the middle age Mogontia

Mogontia and Magoncia, now Mayence, or Mentz, at the confluence of the Rhine and the Maine. That city was the residence of a general whose power extended from Seltz to *Antunnacum*, or Andernach, below the junction of the Moselle and Rhine. *Bingium*, on the bank of the Nava, opposite to Bingen, 18 miles westward of Mentz. The ramparts of that place were repaired by Julian. *Confluentes*, in the lower age Cobolence and Cophelence, now Coblentz, at the junction of the Rhine and Moselle, where one of Drusus's forts was erected for the defence of the Roman frontier. *Baudobrica*, or Bodobrica, Bopart on the Rhine, about 12 miles above Coblentz. *Vosalia*, or Vosavia, now Wesel, between Bopart and Bingen. *Salisso*, Sultzbach, about 30 miles southward of Bingen, in a district occupied by the Sarmatæ.

V. GERMANIA SECUNDA, or Inferior, on the left bank of the Rhine, comprehended the dutchy of Julier, Luxembourg, Limbourg, Liege, and Brabant; and contained the following tribes, viz.

1. *Ubii*, in the electorate of Cologne. *Colonia Agrippina*, Cologne, the capital, on the Rhine, the birth-place of Agrippina the daughter of Germanicus. *Bonna*, Bonn, on the Rhine, above Cologne. *Novesium*, Neuss or Nuis, opposite to Dusseldorp, 25 Roman miles below Cologne. *Rigomagus*, now Rimagen, Riegemach, or Rheinmagen, between Cologne and Coblentz. *Ara Ubiorum*, a place where the Ubii performed their religious rites, now Gots-berg, i. e. Mons Divinus, near Bonn. *Gesonia*, Zons, below Cologne, in the road to Neuss. *Geldaba*, Gelb, or Geldub, about 12 miles below Neuss on the Rhine. *Asciburgium*, Asburg, a few miles below Gelb.

2. *Gugerni*, a remnant of the Sicambri established by Augustus on this side the Rhine, in a territory formerly occupied by the Menapii, between the Ubii and Batavi, in the small districts of Gueldres and Cleves. *Vetera Castra*, a station and town, now Vorstenberg, in an elevated site near Santen, between Dusseldorp and Cleves. At the foot of the eminence there is a moist plain sometimes inundated by the Rhine. *Calone*, now Kelnet or Kendel, on a Roman way between Gelb and Santen. *Ca-*

Ionia Trajana, sometimes surnamed Ulpia and Tricesimæ, now Coln, about a mile from the Rhine.

3. The *Eburones*, in Liege and Limbourg, on both sides of the Meuse, being exterminated, were succeeded by the Tungri. *Atuatuca*, afterward Tungri, now Tongres, anciently a large and celebrated town, north-west of the city of Liege, and west of *Mosæ-pons* or Maestricht. *Marcodurum*, Duren, on the Roer, above Julius, between Maestricht and Cologne. The ancient French kings had a palace there, called *Duria Villa*, or Dura. *Juliacum*, Juliers, or Guilick, about 27 miles west north-west of Cologne. *Fons Tungrorum*, Spa, famous for its medicinal springs, south-east of Tongres about 30 miles. *Coriovallum*, Cortenbach, 18 miles west-ward from Julius, in the road to Maestricht and Tongres. On the south the extensive forest of Arduenna bounded the settlements of the Tungri.

4. Sunici, Condrusi, Segni and Paemani, inconsiderable tribes, were cantoned along the skirts of Arduenna. The name of the Segni is preserved in Sinci, or Signei, a small place near Condroz on the frontier of the county of Namur.

5. The Menapii occupied a territory sometimes called Pagus Menapiscus in Brabant, north of the Toxandri, who were planted in the south part of Brabant between the Scheld and the Meuse.

6. The *Batavi*, a branch of the Catti, being expelled their country, settled on the extremity of the coast of Gaul, and in an island formed by two branches of the Rhine and the sea. *Towns, &c.—Noviomagus*, in the middle age Numaga, now Nimegen or Nimeguen, on the Vahalis or Wahal, nearly opposite to Fossa Drusiana. The canal distinguished by that name originally extended from the right branch of the Rhine below the separation of the Wahal to the Issel near Doesburg. Having received this accession, the Issel, in its progress northward, formed several lakes, and discharged itself into the sea by a mouth called Flevum Ostium, the third mouth of the Rhine, now lost in the Zuyder-zee. *Batavorum Oppidum*, perhaps Batenburg, between the Meuse and

west

west branch of the Rhine: for Cæsar makes the Meuse one of the boundaries of Batavia. *Batavodurum* in the middle age Dorestade, now Wick-te-Durstede, a post on the right branch of the Rhine, above *Trajectum*, or Utrecht. Beyond Durstede, in the road from Leyden along the Rhine, on the bank opposite to Batava, *Levæ Fanum* was situated at a place now called Liven-dael, i. e. Vallis Levæ. *Castra Herculis*, one of the seven forts on the Rhine which Julian repaired, opposite to the commencement of Drusus' Canal, at Malburg. *Arenatium*, Aert, above Castra Herculis, in the upper part of Batavia. *Lugdunum* Batavorum, in the middle age Leithis and Leithen, now Leyden, on a small branch of the Rhine which passes through Utrecht. *Albiniana*, Alfen, 10 miles above Leyden, on the same branch of the river. The Vahalis, or south branch of the Rhine, joined the Meuse at Dordrecht, before the encroachment of the sea in the year 1421; and the mouth of that branch was called *Helium Ostium*, on the north side of which was *Flenium*, now Vlaer-ding.

It is extremely difficult to distinguish the various tribes with which Gaul was peopled in the time of Cæsar, of Tacitus, or of Ptolemy. Modern nations are fixed and permanent societies; but the tribes of Germany and Gaul were fluctuating associations of soldiers and savages. The same territory often changed its inhabitants, in the tide of conquest and emigration. The same communities, uniting in a plan of defence or invasion, bestowed a new title on their new confederacy. The dissolution of an ancient confederacy, restored to the independent tribes their peculiar but long forgotten appellations. A victorious state often communicated its own name to a vanquished people. Sometimes crowds of volunteers flocked from all parts to the standard of a favourite leader: his camp became their country, and some circumstances of the enterprise soon gave a common denomination to the mixed multitude. The distinctions of the ferocious invaders were perpetually varied by themselves, and confounded by the astonished subjects of the Roman Empire. (See Gibbon's Rom. Hist. Vol. I.)

A Comparative View of the ANCIENT *&* MODERN *Political Division of Gaul, is exhibited in the following Table.*

Roman Provinces under Augustus.	Provinces under the French Monarchy.
1. Narbonensis, I^{ma}.	Languedoc, Conserans, Comté de Foix, Roussillon.
2. Narbonensis, II^{da}.	Part of Lower Provence,
3. Alpes Maritimæ, ...	——— Upper Dauphiné, ——— Eastern Provence, Nice, Monaco.
4. Lugdunensis, I^{ma}.	Lyonois, Nivernois, Burgogne, Beaujolais, Forez, Part of Champagne.
5. Lugdunensis, II^{da}.	Normandie, Vexin Français.
6. Lugdunensis, III^{a}.	Bretagne, Maine, Anjou, Touraine.
7. Lugdunensis, IV^{a}.	Mantois, Chartrain, Isle de France, Brie, Part of Champagne, ——— Bourgogne, ——— Nivernois, ——— Orleanois.

8. Aquitania,

Roman Provinces under Augustus.	Provinces under the French Monarchy.
8. Aquitania, I^ma.	Berri, Marche, Limousin, Part of Poitou, Bourbonnais, Auvergne, Velay, Gevaudan, Rouergue, Alby in Languedoc, Quercy.
9. Aquitania, II^a.	Part of Poitou, Angoumois, Saintonge, Perigord, Bordelais, Agenois.
10. Novem Populana.	Landes, Bazadois, Condomois, Comminge, Bigorre, Bearn, Navarre, Gascogne.
11. Gallia Belgica, I^ma.	Territory of Treves, ——— Luxembourg, Dutchy of Gueldre, Messin, Toulounais, Lorraine, Barrois.
12. Belgica, II^a.	Laonois, Beauvoisis, Noyonnais, Picardie, Artois, Flandre.

Roman Provinces under Augustus.	Provinces under the French Monarchy.
13. Maxima Sequanorum,	Part of Bourgogne, ——— Franche Comté, ——— Switzerland.
14. Germania, I^ma.	Electorate of Mentz, ——— Treves, ——— Palatinate, Worms, Spire, Alsace, Some districts in Swabia and in Switzerland.
15. Germania, II^a.	United Provinces, Part of Westphalia, &c.
16. Gallia Viennensis.	Savoy, Vivarais, Dauphiné, Comtat-Venaissin, Part of Provence.

Roman

Roman Military Ways in Gaul.

1. A Mediolano Gessoriacum, from Milan to Boulogne.

	M. P.
A Mediolano Ticinum	22
Laumellum	22
Rigomagum	36
Quadratas	16
Taurinos	21
Ad Fines	16
Segusionem	24
Ad Martis	16
Brigantionem	19
Ramam	18
Eburodunum	17
Caturigas	16
Vapincum	12
Montem Seleucum	24
Lucum	26
Deam Vocontiorum	12
Augustam	23
Valentiam	22
*	*
Ursolim	22
Viennam	26
Lugdunum	23
Assa Paulini	15
Lunnam	15
Matisconem	15
Tinurtium	19
Cabellionem	21
Augustodunum	33
Sidoloucum	17
Aballonem	34
Antesiodorum	33
Euburobrincam	18
Tricases	33
Artiacam	18
Durocatelaunos	33
Durocortorum	27
Suessonas	37
Noviomagum	27
Ambianos	34
Pontes	36
Gessoriacum	39

Military ways from Durocortorum, or Rheims.

		M. P.
1.	A Durocortoro Vungum vicum	22
	Sepoissum	22
	Orolaunum vicum	50
	Andetannale vicum	15
	Treviros	15
2.	A Durocortoro Durocatelaunos	27
	Artiacam	33
	Tricasses	18
3.	A Durocortoro Basilia	10
	Axuenam	12
	Virodunum	17
	Fines	9
	Ibliodurum	6
	Divodurum	8
4.	A Durocortoro Fanum Minervæ	14
	Ariolam	16
	Caturigas	9
	Nasium	9
	Tullum	16
	Scarponam	10
	Divodurum	12
5.	A Durocortoro Muennam	10
	Minaticum	18
	Catusiacum	7
	Verbinum	6
	Duronum	10
	Bagacum Nerviorum	12
6.	A Durocortoro Fines	12
	Augustam Suessonum	13
	Centra Aginum	13
	Augustam Veromanduorum	13
	Camaracum	18
	Nemetacum	14
	Tarvennam	22

Ab

Ab Asturica Bourdigalam, from Astorga to Bourdeaux.

	M. P.
Ab Asturica Vallatam	16
Interamnium	13
Pallantiam	14
Viminatium	31
Lacobrigam	15
Segisamonem	15
Deobriculam	15
Tritium	21
Virovescam	11
Vindeleiam	12
Deabrigam	14
Beleiam	15
Suissatium	7
Tullonium	7
Albam	12
Aracælim	21
Alantonem	16
Pompelonem	8
Turissam	22
Summum Pyrenæum	18
Imum Pyrenæum	5
Carasam	12
Aquas Tarbellicas	39
Monsconnum	16
Segosam	12
Losam	12
Bojos	7
Burdigalam	16

A Burdigala Augustodunum, from Bourdeaux to Autun.

A Burdigala Blanutum	19
Tamnum	16
Novioregum	12
Mediolanum Santonum	15
Annedonnacum	16
Rauranum	20
Limonum	21
Fines	21
Argantomagum	21
Ernodurum	27
Avaricum	13
Tinconcum	20
Decidas	22
Alisincum	14
Augustodunum	22

A Burdigala Augustoritum, from Bourdeaux to Limoges

A Burdigala Sirionem	15
Ussubium	20
Fines	24
Aginnum	12
Excisum	13
Trajectum	21
Vesunnam	18
Fines	21
Augustoritum	28
Ab Augustoduno Lutetiam	187
A Rothomago Lutetiam	76
A Cæsaromago Lutetiam	46
A portu Gessoriacensi Bagacum	83
A Castello Turnacum	38
A Tarvenna Turnacum	49
A Samarobriva Suessonas	89
Ab Antematunno Tullum Leucorum	43

There were many other military ways in Gaul. Strabo mentions four from Lyons, viz. ad Aquitaniam;—ad Rhenum;—ad Belloacas and Ambianos;—in agrum Narbonensem, littusq. Massiliense.

FRANCE

DURING THE MIDDLE AGE.

THE Franks, a nation composed of various tribes, *viz.* the Sicambri, Bructeri, Attuari, Chamavi, Salii, &c. who had united for mutual protection and defence, originally occupied the territory between the lower part of the Rhine and the Weser: but no mention is made of that general appellation before the middle of the third century. About the time of the Saxon invasion, a colony of Franks retired southward to a part of Germany watered by the Mein, and called Francia Orientalis, whose capital was Franconofurt, now Francfort. The modern province of Franconia is of less extent.

During several centuries, the Franks invaded and plundered the Roman province of Gaul. Clodio, their first king, made himself master of Dispargum, Duysburg, and its environs; and, soon after, extended the limits of his territories to the river Some. The petty kingdom of Childeric was confined to the island of Batavia, and the adjacent dioceses of Tournay and Arras. The kindred tribes of the Franks had seated themselves along the rivers Schelde, Meuse, Moselle, and Rhine, under the government of independent kings, the equals and allies of the Merovingian line.

The Romans still kept possession of Senonia, or Lugdunensis Quarta; and Soissons was the residence of a Roman general, while the remainder of Gaul was in the hands of the Visigoths and Burgundians; the former, inhabiting the country between the Loire and the Pyrenees, and the latter, the Viennoise, together with the province distinguished by their name.

Such was the state of Gaul, when Clovis, A. D. 482, ascended the throne. Having subdued several districts in the vicinity of his territories, that brave and fortunate prince defeated Alaric, King of the Visigoths near Poitiers A. D. 507, and seized his domains.

Theodoric, King of the Ostrogoths, checked the rapid progress of Clovis, and took possession of Provincia, between the Alps and the Rhone. Soon after he invaded and subdued Gothia, or Septimania, a tract between the Rhone and the Pyrenees, comprehending the modern provinces of Languedoc, Foix, and Rousillon. Paris became the capital of the kingdom in 508, and was then a considerable city.

After the death of Clovis, the French monarchy was divided into four kingdoms, whose capitals were Paris, Orleans, Soissons, and Metz. Burgundia was reduced by Childebert and Clotaire, sons of Clovis. After Clotaire, by whom these kingdoms were again united, there was a similar division of the monarchy; but the precise limits of these kingdoms cannot be ascertained.

The principal provinces of Gaul, during the middle age, were, as follows:—

1. *Austrasia*, *i. e.* the eastern country, bounded on the north and east by the Rhine and Mons Vogesus, on the south by the sources of the Moselle and the Meuse, and by Francia, from which it was separated by the Meuse and the Some, and on the west by the Scheld. Lothario the Emperor, in 855 or 856, dividing his dominions among his three sons, assigned to his son Lothario the province of Austrasia, which was called Lotharii Regnum, whence the appellation Lotharingia was derived.—

Lotharingia

Lotharingia Superior, also called Mosellana, and by the Germans Lotringen, was traversed by the Moselle: and Lotharingia Inferior received the name Mosana from the river Mosa or Meuse. The most considerable part of the former is now called Lorraine, from Loher-regne; and the latter was known by the title Brachbantum, or Brabant, as early as the seventh century.

2. *Neustria and Francia*, the country reaching from the Scaldis or Scheld, and the upper part of the Meuse, to the Loire. Francia, and Francia Media, in process of time, became the designation of a territory between Neustria, *i. e.* the west or new country, and Austrasia, and is still recognized in the modern province called Isle de France, and particularly in a canton named France on the right hand of the Seine.

A portion of Neustria, adjacent to the sea, and called Nortmannia, Normandy, was granted by Charles the Simple to Rollo, a Norman chief, about the commencement of the tenth century.

3. *Flandria*, a county along the sea-coast, from the river Some to the right mouth of the Scheld.

4. *Britannia*, Bretagne, occupied by several colonies of Britons, who had been constrained by the Saxons to relinquish their native soil, about the middle of the fifth century, and to seek an asylum in Gaul. From the reign of Clovis, the Britons were governed by Counts, or Earls, who rendered homage to the kings of France their superiours. Dagobert I. received the homage of Judicael, whom the Britons distinguished by the title of king. The British territories were at first confined almost to lower Bretagne, and corresponded to the extent of the settlements of the Veneti and Osismii. Upper Bretagne, formerly occupied by the Redones and Namnetes, was a march under the government of the French kings. During the reign of Charles the Bald, the Britons extended the limits of their territories eastward to the Mayenne, and southward beyond the Loire, so as to include Rateatensis Pagus, or dutchy of Retz, on the left hand of that river. Three of the princes in Bretagne enjoyed the title of king.

5.

5. *Aquitania*, between the Loire and the Garonne, comprehended Poitou, Berri, Marche, Limosin, Auvergne, Guienne, Angoumois, Saintonge, and Anis. The appellations Aquitania and Guienne were sometimes indiscriminately used. This province, long under the dominion of the Visigoths, was subdued by Clovis, A. D. 507, and annexed to his kingdom. In the beginning of the eight century, Eude Duke of Aquitania maintained his independence, notwithstanding the powerful efforts of Charles Martel to reduce him to obedience; but Pepin wrested that country from Waifre, grandson of Eude. Louis the mild reigned in Aquitania during his father's life. Towards the middle of the tenth century, in the reign of Louis Outremer, William Duke of Aquitaine governed the counties of Poitou, Saintonge, Limousin, and Auvergne. Charles V. reduced Guienne into the form of a province of the French kingdom.

6. *Vasconia*, Gascogne, a territory between the Garonne and the Pyrenees, was peopled by the Aquitani, when Cæsar was governor of Gaul. In the reign of Augustus, it formed a distinct province called Novempopulana. The Vascones were a tribe of hither Spain, seated at the foot of the Pyrenees, near the source of the Ebro. Thence, oppressed by the Visigoths, they crossed those mountains, in the sixth century, to the country afterward distinguished by their name, whence the modern Gascogne is derived. Theodebert and Thierri, A. D. 602, constrained the Vascones to submit. Several attempts to regain their independence were ineffectual; and in process of time Gascogne was united to Aquitaine. Henry II. king of England, having espoused Eleanor daughter of William IV. Duke of Aquitane, this dutchy became the property of that crown, by which it was retained almost two centuries. Charles VII. dispossessed the English monarch, A. D. 1453, and annexed Aquitane to France.

7. *Gothia, or Septimania.*—About the commencement of the fifth century, Athaulfus, king of Visigoths, took possession of Narbonensis Prima,

ma, now Languedoc, and fixed his residence in Palatium Gothorum, afterward St Giles, near the mouth of the Rhone. Upon his retreat into Spain, Vallia his successor obtained from Honorius a grant of the territory called Aquitania Secunda, which from Thoulouse extended to the Mediterranean. Having defeated the Visigoths near Poitiers, Clovis penetrated to the centre of their dominions, and plundered the capital. In the reign of Pepin, this province was annexed to the kingdom of France; but the Visigoths were permitted to retain the possession of Septimania, a tract lying along the sea-coast, between the Rhone and the Pyrenees. Gothia remained sometime in the hands of the Moors; but was reduced by Charlemagne and his son Louis, A. D. 796, and the government of it was entrusted to officers styled dukes of Septimania and Gothia.

8. *Burgundia*, Bourgogne, was inhabited by a tribe of the Vendili, or Vandals, who had migrated from the borders of the Baltic, in the beginning of the fifth century. Aetius, the Roman general, permitted them to settle in Sapaudia, afterward called Sabogia, now Savoy, an extensive tract between the left bank of the Rhone and the Alps. The boundaries of their cantonments were gradually dilated, so that, in a few years, Burgundia comprehended modern Burgundy, almost the whole of Switzerland and Dauphiné, with a part of Provence and Savoy. Vienna was the capital of that kingdom.

After its reduction by the sons of Clovis, A. D. 534, Gontram, son of Clotaire, and King of Orleans, possessed Burgundy, invested with the title Rex Burgundiæ. Towards the end of the ninth century, two kingdoms were formed in Burgundy. Boson, whose sister Charles the Bald had married, was proclaimed king, A. D. 879, at Mantale near Vienne; and Rodolph, son of Conrad, Earl of Paris, was crowned, A. D. 888, at St Maurice in Wallais, and his kingdom was called Burgundia trans Juram, or beyond Mount Jura. Afterward it extended from Jura to the Saone. Burgundia Inferior, on this side the Saone, was of greater extent

tent than the present province of that name. In the reign of the last kings of Burgundy, an independent province was formed in that kingdom, and by marriage devolved to the Emperor Frederic Barbarossa. Under the Burgundian princes of the blood royal of France, it was exempted from all tribute to the Emperor, who gave it the name of *Franche-comté*. Dauphiné was abstracted from Burgundia at an early period, and erected into a separate principality. In the fourth century, the appellation Sapaudia was assigned to an extensive territory on the left hand of the Rhone.

9. Provincia at first reached along the coast of the Mediterranean from the Alps to the Pyrenees; but, under Augustus, it was bounded on the west by the Rhone, and on the north by the Isere. It was wrested out of the hands of the Goths by Theodoric; and, in the reign of Justinian, was annexed to the dominions of the kings of France. In the thirteenth century, by a marriage, it devolved to the House of Anjou; and on the death of Charles of Anjou, King of Naples and Count of Provence, A. D. 1481, it descended to Louis XI. Since that period, Provence has been attached to the crown of France.

FRANCE.

France, the most compact, and perhaps the most powerful kingdom in the world, exclusive of its recent acquisitions in the Netherlands, is bounded on the north by the British Channel and the Netherlands; on the east by Germany, Switzerland, and Italy; on the south by the Mediterranean Sea and the Pyrenean Mountains; on the west by the ocean: lying between 42° 20′ and 51° 10′ N. latitude, and between 4° 5′ W. and 7° 45′ E. longitude from Greenwich; being 580 miles from north to south, and 600 on a parallel extending from Brest to the Rhine, but its breadth, in 44° latitude, does not exceed 450 miles.

Mountains.—The loftiest ridges of mountains, and the most considerable rivers have been already described—[see Gaul]; but both of these subjects merit further illustration. The grand chain of the Cevennes extends from north to south and south-west, on the right hand of the Saone and the Rhone. From that chain, near Mende, a branch proceeds N. N. W. to 45° N. latitude, and thence N. W. to the department of Vendu. The principalel elevations in this branch, are—Pay de Dome about 5000,—Plomb de Cantal 6100,—and Pay de Sansi 6200 feet above the level of the sea. This vast assemblage of rocks covers an extent of about 120 miles; and some of their summits are hid in snow during the greatest part of the year. From the vicinity of Nevers and Autun, a ridge of hills

extends north-west through the interior part of the kingdom, and terminates in the peninsule of Normandy, opposite to Jersey and Guernsey. From this ridge, near Alençon, a branch shoots out through Bretagne to the sea-coast, opposite to the isle of Ouessant. Gascogne is intercepted by several branches of the Pyrenees from south to north.

Rivers.—The sources and terminations of the most considerable rivers are exhibited in the following table.

Names of Rivers.	Sources.	Terminations.	Direction & Length of Courses. Leagues.
Ain,	south of Salins, in department of Jura,	the Rhone, five leagues east of Lyons,	S. S. W. 30
Aisne,	above Clermont, in department of Meuse,	— Oise, near Compeigne,	N. W. & W. 40
Allier,	at the foot of Mount Lozere,	— Loire, one league above Nevers,	N. 72
Ardeche,	mountains of Aubenas,	— Rhone, one league above Pont St Esprit,	S. S. E. 18
Arriege,	several small lakes in the Pyrenees,	— Garonne, two leagues above Toulouse,	N. 30
Aube,	two sources eastward of Chatillon sur Seine,	— Seine above Nogent,	N. N. W. & W. 28
Aude,	near Angles, 13 leagues west of Perpignan,	— Mediterranean, below Narbonne,	N. & E. 25
Aveyron,	in the cognominal department, near Severac,	— Tarn, 3 leagues below Montauban,	W. 48
Charente,	Cheronat in Upper Vienne,	— Sea, opposite to Oleron Island,	W. 80
Cher,	in the department of Puy de Dome,	— Loire, near Tours,	N. W. 70
Creuse,	in the department of Correze,	— Vienne, below Itaye,	N. W. 40
Dordagne,	in Mont d'Or,	— Garonne, at Bec D'Ambez	N.
Doubs,	in mount Jura, near La Mothe,	— Saone, at Verdun,	N. & S. W. 60
Drome,	in a cognominal vale of Hautes Alpes,	— Rhone, 3 leagues below Valence,	W. 18
Durance,	Mount Geneva,	— Rhone, a league below Avignon	S. W. & W. 60
Escaut,	not far north of St Quentin,	— German Ocean, a long course	N.
Eure,	Forest of Logny	— Seine, above Pont de L'Arche,	N. 36
Gard,	near Mount Lozere,	— Rhone, near Beaucaire,	S. E. 30
Garonne,	the Pyrenees,	— Ocean, below Bourdeaux,	N. W. 140
Gers,	in the Pyrenees,	— Garonne, 2 leagues above Agen,	N. 30
Ill,	a league west of Ferrette, in Haut Rhin,	— Rhine, a league below Strasbourg,	N. 30
Indre,	in a cognominal department	— Loire, below Tours	N. W. 36
Isere,	in the department of Mont Blanc,	— Rhone, 1½ league above Valence,	S. W. 50
Loing,	in the department of Nievre,	— Seine, several leagues above Fontainbleau,	N. N. W. 28
Loir,	near a cognominal abbey, in Eure and Loire,	— Sarthe, above Angers,	S. W. 40
Loire,	Mount Gerbier-le-Joux, Upper Loire,	— Ocean,	N. W. & W. 200
Lot,	above Mende, in Lozere,	— Garonne, at Aiguillon,	W. 80
Marne,	near Langres, in Upper Marne,	— Seine, near Paris,	N. N. W. & W. 92
Mayenne,	in the north part of a cognominal department,	— Loire, below Angers,	S. 40
Meurthe,	in Mount Vosges,	— Moselle, above Toul,	N. N. W.
Meuse,	in the department of Upper Marne,	— German Ocean,	N. 136
Moselle,	in Mount Vosges,	— Rhine, at Coblentz,	N.
Oise,	in the department of Ardennes,	— Seine, below Pontoise,	S. W. 45
Orne,	a league from Seez,	— Sea, 3 leagues below Caen,	N. 20
Rhine,	in Mount St Gothard,	— German Ocean,	N. N. W.
Rhone,	in Mount Fourcha,	— Mediterranean,	W. S. W. S.
Rill,	in the department of Orne,	— Seine, at La Roque	N. 25
Saone,	in the department of Vosges,	— Rhone, at Lyon,	S. S. W. 90
Sarre,	in the department of Meurthe,	— Moselle, a league above Trives,	N. N. W.

Names

Names of Rivers.	Sources.	Terminations.	Direction & Length of Courses. Leagues.
Sarthe,	two leagues above Mortagne,	— Mayenne, 2 leagues above Angers,	S. S. W. 60
Seine,	in the department of Cote d'Or,	— Ocean, opposite to Havre,	N. W. 160
Somme,	not far below St Quentin,	— British Channel, below Crotoy,	N. W. 40
Tarn,	mountains of Lozere,	— Garonne, near Moissac,	W. 70
Var,	the Alps near Colmar,	— Mediterranean, 1½ league west of Nice,	S. 25
Verdon,	the Alps near Colmar,	— Durance, near Manosque,	S. W. 35
Vienne,	south-east corner of Upper Vienne,	— Loire, at Candes,	N. 35
Vilaine,	near Jouvigné,	— Sea, opposite to Belle Isle,	S. W. 45
Yonne,	three leagues above Chateau-Chinon,	— Seine, above Fontainbleau,	N. N. W. 45

Climate.---The climate of France, in general, is mild and temperate. In the northern provinces, the cold, in winter, is intense. The eastern division of the kingdom is 2½ degrees latitude warmer than the western, and more favourable to vegetation. The southern parts are warm, and infested with flies. The central provinces are delightful, but subject to violent storms of rain and hail. Throughout the whole year, the weather is more clear and settled than in England, and seldomer obscured by fogs.

The varieties of climate in France are indicated in the following meteorological table, which contains the mean results of a long series of accurate observations.

Places.	Greatest mean heat.	Least mean heat.	Places.	Greatest mean heat.	Least mean heat.
	Deg. Dec.	Deg. Dec.		Deg. Dec.	Deg. Dec.
Paris.	92 7	16 25	Monte-Lion.	92 7	12 4
Bruxelles.	89 3	13 7	Brest.	86 0	18 5
Dunkirk.	84 2	17 2	Bourdeaux.	92 3	25 2
Metz.	96 5	15 3	Montpelier.	95 2	23 7
Nancy.	86 4	10 16	Marseille.	89 9	25 0
Besancon.	87 0	16 1			

Surface and Soil.---Some geographers have divided this kingdom into basons, or large plains watered by the principal rivers, and bounded by several ridges of hills either original or secondary. 1. The plain watered by the Loire and its tributary streams. 2. That of the Garonne. 3. The level country on either hand of the Seine and its branches. 4. The bason traversed by the Rhone and the Saone. The surface of the country is tolerably level; but several provinces are diversified with hills, gentle eminences, barren tracts, and fruitful districts.---The soil, for the most part, is fertile and productive, as will appear from the description of every province and department.

Population---The population of France has been variously estimated. M. Mirabeau, A. D. 1754, computes the number of inhabitants to be 18,107,000. M. L'Abbe Expilly, A. D. 1772, makes them amount to 22,014,357; which Buffon, at the same period, reduces to 21,672,777. M. Neckar's estimate, in 1785, is 24,676,000, and that of M. Bonavallet-Desbrosses, in 1789, is 27,957,267. The National Assembly, by the returns of taxes, found the number of inhabitants to be 26,363,074. In the sixth year of the republic, M. Bureau-du Cadastre, computed the population of France, including the recent acquisitions and Corsica, to be 31,123,218; and in the year following it was reckoned by Dépère 33,501,694. In the year 1802, the French republic was nearly equal in extent to that of Gaul in the time of the Romans. It comprised all the countries which formed monarchical France, with the following additions, viz. the county of Avignon, the dutchy of Bouillon, the republic of Mulhausen, the principalities of Montbeliard, Porentruy and Salon, the republic of Geneva, the counties of Nice, Savoy, Piedmont, Belgium, Dutch Flanders, Dutch Brabant, with all the territory on the left hand of the Rhine, Maestricht, Venloo, and their dependencies, the Island of Elbe, and the republic of Genoa divided into three departments. The surface of the French territories, exclusive of Genoa, was then

then computed to be 31,385 square leagues; and the population 34,468,312, exclusive of Geno: and Elbe.

Manners and Customs.—Of these little can be said that is not familiar to every reader. Sprightliness, ease, and affability, are striking features in the national character. With some exceptions, the French are 'quick, 'ingenious, inventive, fertile in expedients, buoyant against difficulty 'and misfortune; but inconstant, mutable, vain, confident, credulous, 'and incapable of moderation.' Politeness often ridiculous to people of sentiment, and complaisance bordering on officiousness, pervade all ranks, even men of letters as well as the fashionable world. Their conversation in social circles is lively but trifling. Dress, fashion, amusements, &c. are the chief subjects discussed. They abound in compliment, and seldom know how to adapt their behaviour to the situation and character of those with whom they converse. Hence strangers accuse them of insincerity, but without reason, for there is no intention to deceive. Complimentary phrases are used in all nations, and are never considered as indications of friendship. Their good manners, however, may be traced in various proportions through every rank of society, from the highest nobility to the lowest mechanic. Their civility to a stranger, not sufficiently versed in the language, has been often remarked. Though he can scarcely open his mouth without a blunder, yet he is never laughed at, but in the most delicate terms is informed of the proper phrase, and kindly assisted in expressing his meaning. The behaviour of an Englishman to a foreigner will not stand a comparison.

People of rank are fond of pomp and magnificence. Those of them who keep a carriage are seldom seen abroad out of it, and they who cannot afford this luxury may be met in the streets sauntering in full dresses, with swords, as if they were going to Court. Their usual amusements are gaming, and frequenting plays, operas, and other places of resort. They are expert in the academical exercises of dancing, fencing, and horsemanship;

horsemanship; but their acquaintance with the sciences is, in general, very superficial.

There is no middle state as in England. The lower ranks live miserably, and are grievously oppressed, notwithstanding the fertility of the soil, propitiousness of the climate, and immense resources of wealth. Amidst abundance, the peasant can hardly, by industry, earn a scanty subsistence, owing partly to the vices and extravagancies of the opulent and powerful, and partly to the defects of government, which leaves the inferior class in some measure unprotected, and exposed to the insolence of the great, though their condition is now more tolerable than it was under the former monarchy.

Care and anxiety a Frenchman industriously excludes. The effect of disappointments, losses, and misfortune, is momentary. These never prey upon his mind, nor even interrupt his gaiety and good humour. Gloomy prospects of futurity never disquiet him. He enjoys the present, and thinks not of what is to come. In prosperity he is apt to be insolent, vain, and imperious; in adversity he is not depressed.

Their nobles born to cringe, and to command,
In courts a mean, in camps a generous band;
From each low tool of power content receive
Those laws their dreaded arms to Europe give.
Whose people vain in want, in bondage bless'd,
Tho' plundered gay, industrious tho' oppress'd:
With happy follies rise above their fate,
The jest and envy of each wiser state.

LITTLETON.

The instability and fluctuation of the French national character have been recently illustrated in the most striking manner. Innate loyalty and love of monarchy were long predominant. Attached to the person of

of their sovereign, all ranks were disposed to excuse his weaknesses and follies, to magnify into importance his most indifferent actions, and to boast that there was no check to his authority. They considered him as their friend, though he knew not their persons, and as their benefactor while they were oppressed with taxes. But, during the late convulsions, an entire change in sentiment took place. Royalty was degraded; levelling principles were adopted; a republican form of government became the idol of the people. This revolution of opinion, however, was of short duration; the spirit of anarchy evaporated; monarchical principles operated with such force as to reconcile the nation to despotism.

Dress is an object of the greatest attention to all those who pretend to any rank above the vulgar. In this particular they have certainly more invention than any of their neighbours, and they have long possessed the lead in taste and fashion. To caprices of this sort females are enslaved. Ladies paint without art or dexterity, and thereby render themselves, in the eyes of foreigners, objects of aversion and disgust. The attention shewn to the fair sex, or what is commonly called gallantry, has the appearance of indecent freedom, but seldom amounts to criminality. A Frenchman of fashion approaches their toilets and bed-chambers without reserve, yet they are generally proof against all designs on their persons; notwithstanding, the looseness of French morals with regard to the sex has become proverbial.

The French, more abstemious than the English, live on a very slender diet. They eat little flesh meat, and that disguised by cookery, and seasoned with onions, herbs, and spices; but they use abundance of sweetmeats and other delicacies. Poor mechanics live almost entirely on soups and vegetables.

Products.—This country yields abundance of grain, wine, oil, fruits, roots, and silks. There are several extensive forests, as those of Orleans and Ardennes, with variety of timber on the Alps, Pyrenees, and Vosges. Mr Young, treating of the produce of France, calculates that of arable

arable lands there are 70,000,000 acres; vineyards 5,000,000; woods 19,850,000; rich pasturage 4,000,000; artificial grasses 5,000,000; heaths, barren tracts, marshes, lakes, and rivers 27,150,000. Though agriculture has been encouraged by societies established for this purpose, yet a considerable proportion of the kingdom is still in an uncultivated state. While the husbandman occupies his farm on a precarious tenure, he will not put forth his energies on the improvement of it, as he is not sure of enjoying the fruit of his labour.

In most of the provinces abundance of wine is produced. That of Champagne is reckoned the best; that of Burgundy is distinguished by its fine colour and pleasant taste. The wines of Orleans and Angers are delicate, but of an intoxicating quality. Poitou yields a white wine resembling Rhenish. The vicinity of Bourdeaux, and the lower parts of Gascogne produce Vine de Grave, and other excellent wines. Pontiack grows in Guienne; Muscadel and Frontiniac are the delicious products of Languedoc. The Vigne d'Eremitage, whose juice is no less salubrious than agreeable, is cultivated on the banks of the Rhone; and several districts in the neighbourhood of Metz yield a pleasant wine that is sometimes vended for Champagne.

Mines, &c.—Minerals are found in many parts of the kingdom. A rich gold mine formerly existed in the department of Isere; silver mines abound in Alsace, and in the department of the Upper Rhine; and in the channels of some rivers are particles of those metals. There are mines of copper in Alsace, and in the departments of the Alps, the Loire, the Lozere, and the Ardeche. In the same districts, and in those of Vilaine and Ill, in the maritime Alps and mountains of Vosges, lead is found. Tin has not yet been discovered. Iron mines abound in the departments of the Meuse, Moselle, Vosges, Upper and Lower Rhine, Upper Saone, Nievre, Marne, Upper Vienne, Ardennes, Jura, Upper Garonne, Pyrenees, &c. In 1800 there were about 2000 forges, furnaces, &c. for the working of iron and steel. There are noted mines of

of calamine in the departments of La Manche, Cevennes, Gard, &c. and in the vicinity of Aix la Chapelle. Manganese occurs in the department of the Saone, and near Perigou. There is a small proportion of cobalt in the mines of Vosges, in the Pyrenees, and at Allemont. Productive mines of antimony exist in the departments of the Creuse, Cantal, Upper Loire, Allier, and Vendre. There are excellent coal mines in the departments of the Jemmape, Saare, Lower Meuse, and Roer; in the Calvados, the Loire, Upper Loire, Herault, Tarn, the north department, &c. Jet, a species of coal that admits of a fine polish, abounds in the department of Aude: In 1786, upwards of 1200 workmen were employed in this article of trade. Other minerals are combined with those already mentioned.

Mineral Waters.—The most noted are those of Barrege and Bagneres in the Upper Pyrenees, Ussat and Ax in Arriege, St Amand in the north, Bourbonne in Upper Marne, Plombieres in Vosges, Chaudes-Aigues in Cantal, Aix in the mouths of the Rhone, Sultz in Lower Rhine, Sultzbach in Upper Rhine, Spa in Ourte, Aix-la-Chapelle in Roer.

Manufactures.—To enumerate the manufactures which have been established in France would exceed the limits of this work. At Abbeville, Louviere in Normandy, and Chateau-Roux, are famous manufactures of broad cloth. Tours has long been celebrated for silks. In the reign of Louis XIV. 8000 looms, and 800 mills were employed in that city; and the silk manufactures of Lyons were estimated to employ 60,000 people. But these manufactures have gradually declined since the revocation of the edict of Nantes in 1685, when the most skilful artists and most industrious traders were compelled to leave the kingdom; notwithstanding, in 1789, silk was manufactured to the value of 71,741,593 livres. The fabrication of plate glass at St Gobin is reckoned the first in Europe. Cambrics, gauzes, and laces to a great amount are manufactured in the Netherlands. Of paper 305,000 reams are made in Paris alone. Rouen has been styled the Manchester of France. In

Bretagne are numerous manufactures of thread and linen. In 1787, the products of industry amounted to 150,705,000 livres.

Commerce.---No country in Europe is more advantageously situate for commerce. The chief imports are raw silk, wool, hemp, raw hides, tallow, and timber; and the chief exports---manufactured silks, broadcloths, woollens and linens of various kinds, gloves, skins, wine, and brandy. In 1788, the average imports were about twelve millions and an half Sterling, and the exports fifteen millions nearly; but since the revolution, the commerce of France has been almost annihilated The internal trade is carried on by navigable rivers and numerous canals.---Among the latter are the following, *viz.*---

Canal des Alpines, composed of two branches, between the Durance and the Rhone; the one reaching from Mallemort to Tarasçon; and the other traversing the district of Arles from north to south, in the department des Bouches du Rhin.

Canal de Briare, about 20 leagues in length, from the Loire near Briare northward to the Loing at Montargis, rendered navigable by 42 sluices.

Canal de Bruck, from Molsheim, four leagues eastward to Strasburg, in the department of Bas Rhin.

Canal de Bruxelles, north to Antwerp on the Schelde, in the departments of Dyle and Nethes.

Canal de Bourgogne, from the Saone 50 leagues north-west by Dijon, Tonnerre, &c. to the Yonne near Joigny, in the departments of Yonne and Cote D'Or.

Canal de Calais, from the vicinity of this town across the country to a river that runs down to Gravelines.

Canal de Charolais, 21 leagues in length, traversing the department of the Saone and Loire, *i. e.* from Chalons on the Saone south-west to the Loire at Digoin.

Canal

Canal de Douay, by which a communication is made between the towns of Lens, Lisle, Douay, and the rivers Upper and Lower Deule, the Scarpe, and the Scheld. From Lisle the canal runs near La Bisse and Lens to Douay, whence it returns and goes out of the Scarpe, passes near Marchienne, and joins the Scarpe again at St Amand.

Canal de Givors, from the Rhone west to the Loire, below Lyons.

Canal de Landau, extending from this town to the Rhine near Spires.

Canal de Languedoc---[see Languedoc]. The breadth of this canal, including towing-paths, is 144, and its depth 6 French feet. Narouz, the highest point of the navigation, is 600 feet above the level of the two waters. More than 12,000,000 cubic feet of earth, and 30,000 cubic feet of solid rock have been removed to form the bed of the canal; and there are about 240,000 cubic feet of stone work, including a projection into the sea of 200 fathoms, and a pier of 5000 fathoms at the port of Cette.

Canal de Louvain, reaching four leagues north-west to Malines.

Canal de Luçon, from this place to the sea, opposite to the isle of Ré.

Canal de la Meuse, from the neighbourhood of Venlo, through Gelderland to the Rhine.

Canal de Neuf-Brissac, reaching from the Saone, north-west by Besançon, to the Ill.

Canal de Orleans, extending from the Loing near Montargis, 18 leagues south-west to the Loire above Orleans. This canal has 30 sluices.

Canal de Picardie, which begins at St Quintin, passes near the town of Ham on the Somme, and crosses the country to the river Oise near Lafere, whence vessels proceed down that river to Chauny, where the river is navigable to the Seine. Besides these, there are other canals of less note.

There are many commodious harbours for foreign trade; the northern shore being washed by the British Channel; the western coast by the Atlantic; and the south-east boundary by the Mediterranean. The principal exports are wine, brandy, olive oil, oxen, sheep, and mules,

wool, hides, linen, woollen, silk, soap, and salt. The imports are copper, iron, lead, coal, grain, cotton, wool, raw silk, oil of olives, tobacco, hemp, soda and ashes, flax, raw hides, tallow, timber, drugs, spices, books, &c. In 1787, the total exports amounted to 349,725,400 livres, and the imports to 310,184,000. The provinces of Loraine, Alsace, the three bishoprics, and the West Indies, are not included. Since the commencement of the late revolution, the trade of France with the West and East Indies has been almost annihilated. In 1792, were entered at the French ports 7607 vessels, and a tonnage of 639,235, belonging to France and other nations, loaded with merchandise imported; and 8,618 merchant vessels of 544,935 tons for goods exported. The cargoes imported were valued at 319,265,000 francs, and those exported at 357,638,000.

Religion.—The established religion of France, before the revolution, was the Roman Catholic; and no other Christian sect was tolerated since the repeal of the edict of Nantes. The clergy were a very numerous body. In 1789, there were 18 archbishops, 112 bishops, 40,000 parishes, 800 convents of men, 281 of women, 679 chapitres. This ecclesiastical division being annulled by the National Assembly A. D. 1801, the number of archbishops was reduced to 10, and that of the bishops to 50; all of whom are nominated and appointed by the first Consul, now called the Emperor.

Ecclesiastical

Ecclesiastical Division of France.

Archbishops' Sees.	Bishops' Sees.	Departments composing each Diocese.
Paris, – – –		Seine.
1.	Troyes, –	Aube, Yonne.
	Amiens, –	Somme, Oise.
	Soissons, –	Aisne.
	Arras, –	Pas-de-Calais.
	Cambray, –	Nord.
	Versailles, –	Seine & Oise, Eure & Loire.
	Meaux, –	Seine & Marne, Marne.
	Orleans, –	Loiret, Loir & Cher.
Malines, – – –		Deux Nethes, Dyle.
2.	Namur, –	Sambre & Meuse.
	Tournay, –	Jemmape.
	Aix la Chapelle,	Roer.
	Treves, –	Rhin & Moselle, La Sarre.
	Gand, –	Escaut, Lys.
	Liege, –	Meuse inferieure, Ourthe.
	Mayenne, –	Mont Tonnerre.
Besançon, – – –		Doubs, Haut Saone, Jura.
3.	Autun, –	Saone & Loire, Nievre.
	Metz, – –	Mosselle, Forets, Ardennes.
	Strasbourg, –	Bas Rhin, Haut Rhin.
	Nancy, –	Meurthe, Meuse, Vosges.
	Dijon, – –	Cote d'Or, Haute Marne.
Lyon, – – –		Rhone, Loir, Ain.
4.	Mende, –	Lozere, Ardeche.
	Grenoble, –	Isere.
	Valence, –	Drome.
	Chambery, –	Mont Blanc, Leman.

Archbishops' Sees.	Bishops' Sees.	Departments composing each Diocese.
Aix, – – – –		Bouches-du Rhin, Var.
5.	Nice, –	Alpes Maritimes.
	Avignon, –	Vaucluse, Gard.
	Ajaccio, –	Golo, Liamone.
	Digne, –	Basses Alpes, Hautes Alpes.
Toulouse, – – –		Haute Garonne, Arriege.
6.	Cahors, –	Lot, Aveyron.
	Montpellier, –	Herault, Tarn.
	Carcassonne,	Aude, Pyrenees Orient.
	Agen, –	Lot & Garonne, Gers.
	Bayonne, –	Basses Pyrenees, Hautes Pyrenees, Landes.
Bordeaux, – –		Gironde.
7.	Poitiers, –	Vienne, Deux Sevres.
	Rochelle, –	Charente inferieure, Vendée.
	Angouleme, –	Charente, Dordogne.
Bourges, – – –		Cher, Indre.
8.	Clermont, –	Puy de Dome, Allier.
	St Flour, –	Cantal, Haute Loire.
	Limoges, –	Haute Vienne, Creuse, Correze.
Tours, – – – –		Indre & Loire.
9.	Le Mans, –	Sarthe, Mayenne.
	Angers, –	Mayenne & Loire.
	Nantes, –	Loire inferieure.
	Rennes, –	Ille & Vilaine.
	Vannes, –	Morbehan.
	St Brieux, –	Cotes-du Nord.
	Quimper, –	Finistere.
Rouen, – – – –		Seine inferieure.
10.	Coutances, –	Manche.
	Bayeux, –	Calvados.
	Seez, –	Orne.
	Evreux, –	Eure.

Literature.---The sciences and arts have made great progress in this kingdom. Towards the middle of last century, an academy of sculpture and painting was established, and eminent masters in both arts were produced. In the art of engraving, France long excelled other nations, but is now surpassed by England. Its statuary is admired, though inferior to that of Italy, and its architects have been always famous. In 1671 an academy of architecture was founded by Colbert. In military tactics, in gunnery and fire-works, they excel; and in what are called the fine arts they yield to the English alone. Almost every branch of literature in France has been patronised by persons of wealth and distinction. During the reign of Lewis XIV. men of talents arose in every department, and the productions of Tillemont, Fleury and Dacier; Malebranche, Pascal, and Bayle; Bossuet, Fenelon, Massilon, Bourdaloue, and Vertot; Corneille, Racine, Boileau, Moliere, and la Fontaine; Mignard, le Brun, le Poussin, and Perrault; Maintenon, Dacier, Sevigny, &c. are universally read and admired. The eighteenth century has also produced many learned men, who have reflected honour on their language and country; among whom may be mentioned Voltaire, Crebillon, Rousseau, la Harpe, de Lisle, Marmontel, and Bouflers; Servan, Linguet, and Mirabeau; Rollin, Barthelemi, Raynal, Millot, Henault, D'Anville, Gosselin, and Larcher; D'Alembert, Fontenelle, Diderot, Helvetius, Condillac, Gerard, and Freret; Condamine, Maupertuis, Clairaut, Reaumur, Pluche, Bailly, Duhamel, Lavoisier, Fourcroy, Buffon, La Grange, La Place, Condorcet, Ozanam, La Croix, Montucla, La Lande, Mechain, &c. Not many years ago there existed 26 universities, and 39 academies and literary societies, eight of which were in Paris. The royal academy of sciences, and that of inscriptions and belles lettres, were justly held in high estimation; and the productions of learned men, in philosophy, polite literature, astronomy, and mathematics, are studied and admired all over Europe. Many public institutions and literary societies have been established by the new government. The most noted

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are those of Montpellier, Rouen, Caen, Rennes, Nantes, Toulouse, Nimes, Lyon, Avignon, Dijon, Marseille, Grenoble, Geneva, Bruxelles, Paris, &c. The Institut National originally consisted of three classes divided into 24 sections. In each section there were six members. The sections of the first class were, 1. Mathematics. 2. Mechanical arts. 3. Astronomy. 4. Experimental philosophy. 5. Chemistry. 6. Natural History and Mineralogy. 7. Botany. 8. Anatomy and Zoology. 9. Medicine and Surgery. 10. Rural oeconomy. The second class was divided into six sections, viz. 1. The analysis of sensations and ideas. 2. Moral Philosophy. 3. Legislation, &c. 4. Political economy. 5. History. 6. Geography. In the third class were, 1. Grammar. 2. Ancient languages. 3. Poetry. 4. Antiquities. 5. Painting. 6. Sculpture. 7. Agriculture. 8. Music and Oratory. In the year 1803 this society was new-modelled, and divided into four classes. Many of the members are distinguished by their superior talents, and extensive erudition; and in the list of foreign correspondents are some of the most learned men in Europe.

Government.—The kingdom of France was formerly an absolute monarchy. All authority was vested in the sovereign. His edicts were laws when registred by the parliaments, and published in inferior courts of justice. He made peace and war, and formed alliances without the advice or consent of the people. He imposed taxes, and had the disposal of all offices and benefices. The crown was hereditary in the male line, and the eldest son, or heir apparent, was called Dauphin. The management of state affairs was entrusted to a council composed of four ministers, or secretaries. There were besides several other great councils, high courts of justice, courts of finances, &c. And for the better administration of justice, the provinces were subdivided into small, middle, and large governments, and generalities. The form of government at present established in France is completely despotic, for all power, civil, ecclesiastical, and military is centered in Napolean.

Revenue.

Revenue.—The amount of the public revenue in France, according to the statement of Necker, was 600,000,000 livres, including the expences of collection, and taxes on account of the states, the clergy, &c. In 1790, the general statement of the revenue was 317,832,101 livres; but the product did not exceed 253,091,000; and the balance was made up by anticipations and assignats. The expences to be incurred in 1791, were estimated at 589,172,000 livres. At the commencement of the revolution, the national debt amounted to 5,587,247,302 livres, or L. 244,449,099. At that period the sale of national estates produced 735,054,754 livres; and it was calculated that the remaining estates would produce the additional sum of 2,765,035,246. This transfer of property contributed greatly to give security to the new government, as many persons were interested to support that system by which alone their property could be rendered safe. By the acquisition of the Netherlands, a great addition is made to the revenue and political importance of France. The gold and silver currency of France, at the assembly of the states, was L. 87,500,000, whereas the total currency in Great Britain does not exceed L. 80,000,000, the great mass of circulating currency being in paper.

Army and Navy.—In 1784, the whole army consisted of 144,624 infantry, 58,176 cavalry, and 10,124 artillery. But, in consequence of the late convulsions, the army has been augmented to about 500,000, without including engineers, miners, &c. In 1787, the maritime power of France consisted of 256 ships of all descriptions; and in 1791, the French fleet was composed of 73 ships of the line, 67 frigates, 19 corvettes, and 67 small craft. But, by the naval force of Great Britain, most part of that fleet has been destroyed or taken, and the remainder is now blocked up in the several harbours of the kingdom.

History.—The history of the rise and progress of the French empire is interesting to a British reader. The foundation of that monarchy was laid, A. D. 481, by Clovis; from whose reign to the end of the first dynasty, history exhibits nothing but a confused detail of obscure and complicated

complicated interests, barbarous actions, invasions, wars, and massacres. On this period it may be sufficient, at present, to remark, that the Saracens, who then over-ran Europe, frequently ravaged Gaul, and retaliated the cruelties of the Goths and Vandals upon their posterity.

In the year 769, Charlemagne ascended the throne; and, by the conquest of Germany, Spain, and part of Italy, aggrandized the power of France: but the division of his extensive dominions among his sons proved fatal to his family. Soon after his death the Normans invaded France, about the year 900 took possession of Normandy and Bretagne, and in 1066 gave a king to England. From that time, almost perpetual hostilities have been carried on between France and this country. During the crusades, in which the French bore the chief sway, the turbulent humours which rendered the nobility formidable at home were exhausted, and the estates of those who died abroad without heirs reverted to the crown.

In process of time, the French began to extend their influence over Europe; with little effect, indeed, during the middle age, but more signally in the reign of Francis I. contemporary with Henry VIII. of England. That prince, distinguished by his bravery and his misfortunes, aspired to the imperial crown; but Charles V., his rival, was preferred. He made some hostile incursions into Spain; but having invaded Italy, he was taken prisoner at the battle of Pavia, and obtained his enlargement on dishonourable terms, which he never meant to perform. His son and successor Henry II., a valiant prince, prosecuted the war with the Emperor of Germany to great advantage for his own dominions, and in marrying his son, the Dauphin, to the Queen of Scots, planned the union of that kingdom to his crown; but this scheme, notwithstanding all his address and dissimulation, proved abortive. Towards the conclusion of his reign, peace was re-established in Europe by the treaty of Chateau Cambresis, A. D. 1559.

Francis II., the son of Henry, was a weak and inefficient prince. His court was divided by three powerful factions, which were on the eve of convulsing the kingdom, when he was suddenly cut off in the seventeenth year of his age. His brother, Charles IX., was a minor at the commencement of his reign; and the sole direction of affairs was committed to the artful and dangerous Catherine of Medicis, whose regency was a series of treachery and murder. The fury of faction still raged, and, in the course of this reign, five civil wars rent the kingdom. In 1572, about 30,000 protestants, with their heads and leaders, were massacred in France, on St Bartholomew's day.

Henry III., brother and successor of Charles, devoted himself to pleasure, and left the administration of public affairs to his mother. During this reign, hostilities and pacifications quickly succeeded one another.

The line of Valcis having become extinct, Henry IV. King of Navarre, and a protestant, was next heir to the crown by the Salic law.--- But so general and deep rooted was the aversion from him, that he could devise no other method to secure himself in the possession of the throne, than to wage war without intermission, or to change his religion. Humanity and prudence determined him to prefer the latter expedient.--- Having declared himself a Roman catholic, all France submitted to his authority. Though he uniformly consulted the interest and happiness of his subjects, he was continually surrounded with traitors and assassins, till at last he fell under the stroke of fanaticism A. D. 1610.

The untimely death of Henry plunged the kingdom into every species of misfortune. During the minority of Louis XIII. the most dangerous cabals were formed; and Cardinal Richelieu, the prime minister, by his bold and sanguinary measures, put a period to the remaining liberties of France, and to the establishment of the Protestants there. He died some months before his sovereign, who, A. D. 1743, left his son Louis XIV. to inherit his kingdom. The history of this reign is that of Europe. The Queen, Ann of Austria, was appointed regent during the minority

minority of the prince, and she committed the management of public affairs to Mazarine. After the death of this minister, Louis assumed the reins of government, became the idol of France, and the admiration of Europe. But his unbounded ambition made him odious and formidable to neighbouring powers, with whom he soon embroiled himself, and rendered Germany a dismal scene of devastation. He was, at length, opposed by a confederacy of almost all the princes of Europe, at the head of which was William III. King of England. From 1702 to 1711, his reign was one continued series of defeats and calamities.

Louis XV. ascended the throne A. D. 1715, at the age of five years. Notwithstanding the pacific system of Cardinal Fleury, his preceptor and minister, the situation of affairs in Europe more than once embroiled him with the House of Austria. But such trivial dissentions gave but little interruption to the general tranquillity, until the year 1734, when a flame broke out in consequence of the death of Augustus II. King of Poland, and soon spread itself through every part of Europe. Louis wished to place on the throne of Poland his father-in-law Stanislaus; and the Russians and Austrians espoused the cause of the Elector of Saxony. Hostilities were carried on with various success, and in 1736 were terminated by the treaty of Vienna.

After the death of Charles VI. from a desire of dismembering the dominions of the House of Austria, France united with Russia, Saxony, and Poland, in support of the Elector of Bavaria's pretensions. The peace of Aix la Chapelle, A. D. 1748, instead of establishing permanent tranquillity, proved only a temporary suspension of that storm which, a few years after, burst out and raged with violence in almost every quarter of the globe. To chastise the French, who had encroached upon the colonies settled in America, Britain had recourse to arms. The early events of this war were glorious for France; but towards the conclusion of the contest, she sunk into the lowest humiliation; conquering at first the island of Minorca and the Electorate of Hanover, and after-

wards losing her settlements in Asia, Africa, and America; victorious in her first engagements, and then defeated when she was preparing to triumph. After seven years of calamity and devastation, this war was brought to a period by the treaty of Paris, February 1763.

Soon after the accession of Louis XVI. Great Britain commenced hostilities against her American colonies A. D. 1775. Deeming this a favourable crisis for repressing the power of her formidable rival, France entered into an alliance with the United States A. D. 1778. The issue of this contest is well known. By the peace of 1783, and by a subsequent commercial treaty, the hereditary enmity that had subsisted for ages between France and Great Britain, appeared to have been laid asleep, and the occasion of future wars in a great measure cut off. But the late revolution in the former kingdom dissolved its connection with the latter. The rise and progress of this revolution may be illustrated by the following observations.

During the early period of the French monarchy, the sovereign's power was very limited; for whatever related to the general welfare was determined in the national assemblies, composed of the clergy, the chief men of the laity, and the inferiour order of freemen. Under the third race of monarchs, the kingdom was broken into so many independent baronies, each of which, within its territories, usurped all the rights which had hitherto been exercised by the States General. The kings embraced this opportunity of extending their prerogative; but the royal authority was still restrained by the rights and privileges which the nobility claimed, and by the jurisdiction of parliaments, which were properly committees of the States General, to which the supreme administration of justice was entrusted, and in which every cause of importance was finally determined. In those courts, the edicts and ordinances of the kings were approved of and registered before they were published in the kingdom; and on that account they formed a barrier against every unprecedented and exorbitant exertion of the prerogative. But these efforts to controul

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the king's legislative power were rendered ineffectual, when the king appeared in person and commanded the edict to be read and registered. Such was the government in France when Louis XVI. ascended the throne.

All the steps which paved the way to the revolution, it is not my province to enumerate. It may be sufficient to observe, that, soon after the commencement of that monarch's reign, the people, who had long been oppressed by the yoke of despotism, began to cherish those liberal ideas of civil government, which they had imbibed from the writings of eminent authors in England and France; that the French troops employed in the American war returned with sentiments favourable to civil liberty, which they industriously propagated among their fellow citizens; that the national debt, by extravagance and mismanagement, had increased to an enormous sum; that taxes were imposed where they were least productive, and most severely felt by the nation at large; and that the administration of justice was grossly venal and partial. These are a few of the immediate causes of the French revolution. The various forms which it assumed in its progress to absolute despotism, are specified in the following chronological detail.

The deranged state of the financies alarmed the king and his ministers, none of whom had the abilities to meet this evil with fortitude, or to apply an efficacious remedy. The assembly of notables, formerly an organ of administration, under the authority of the sovereign, now assumed a tone which government had been unaccustomed to hear, undertook a thorough investigation of the revenue A. D. 1787, and refused to sanction any mandate from the throne, of the justice and expediency of which they were not fully convinced. The parliaments copied their example, and firmly opposed the arbitrary measures of administration. The timid, wavering, irresolute conduct of the monarch and his advisers, emboldened the opposition. The various concessions of the king encreased the demands of the people; and the army were tinctured with revolutionary principles. At this awful crisis, the States General, which had not been convoked

convoked since the year 1614, met at Versailles May 5th 1788. It was composed of the nobility, the clergy, and the tiers-etat, or commons, the last of which was equal in number to the other two orders. This court, or national assembly, acquired the confidence of the people, and degraded parliaments in their estimation. The democratic party in that assembly daily gained ground; and, in June 1790, it was decreed that parliaments and the established religion should be abolished, and the property of the clergy confiscated; that distinctions of orders cannot exist in a free state; and that all citizens should take their family names. A new division of the kingdom into departments was likewise ordained. This constitution was accepted by the king, September 14th A. D. 1791; and on the 30th of that month, the national assembly dissolved themselves.

A new assembly, composed of men of inferior respectability, determined to abolish monarchy, and to establish a republican constitution.—This assembly soon split into two factions, headed by Brissot and Robespierre. Under the sanction, or by the connivance of that furious unprincipled mob, the royal authority was trampled upon, and the most daring outrages and murders were wantonly committed. The executive power in the hands of the king was suspended, August 10th 1792; and it was decreed that a national convention should be appointed to plan a government for France, and to nominate a new executive council.

A convention, formed by the people in primary assemblies, met, September 20th, in a legislative capacity. Among other violent members of the two former assemblies, Robespierre, Condorcet, Abbé Sieyes, Danton, Chabot, Merlin, Petion, were present. The entire abolition of royalty was decreed on the day following, and a republican form of government was established. It was afterwards enacted, that all public deeds be dated 'the first year of the French republic.' Emigrants were ordered to quit the kingdom; and it was decreed, November 19th, that the French nation will grant fraternity and assistance to all those people in every nation who wish to procure liberty. Towards the conclusion of

of this year, the King was brought to the bar of the Convention, tried, found guilty, January 1793, and executed on the 21st of this month.

War against Great Britain was proclaimed February 1st. A new constitution was presented to the Convention on the 15th; but it was found too absurd and visionary to receive the sanction of a decree. In March, a revolutionary tribunal for trying criminals of a political description was instituted; and a committee of public safety was appointed, April 7th, as the executive branch of government. Animosity, rancour, and virulence, agitated the two factions into which the convention, as well as the nation, was divided; but against foreign foes all were united; for, it was decreed, August 23d, that the whole nation should rise in a mass to exterminate enemies foreign and domestic. The Queen was brought to her trial, October 23d, condemned, and executed the same day. In the course of this month, Brissot, with many of his party, the Duke of Orleans, Bailli, &c. were condemned by the revolutionary tribunal. Danton, and other Cordeliers, accused of atheism and of conspiracy against the republic, were executed. Roberspierre and his associates prevailed; but, July 28th, the Jacobin clubs were suppressed, having existed since August 10th 1792. The Gregorian calendar was abolished in France, October 1st, and in the room of it were substituted a new æra and a new calendar.

The French took possession of Holland, which they declared a free and independent state, January 1795. Their success in that country and in the Netherlands, enforced by some secret influence, induced the king of Prussia, April 10th, to desert the allies. The son and heir apparent of Louis XVI. died a prisoner in the Temple, June 9th; and peace was concluded, July 22d, between France and Spain.

The convention, August 23d, transmitted to the primary assemblies, for their approbation and acceptance, a regular system of government. By this new constitution, the territorial possessions of the republic were divided into departments, cantons, and communes. The primary assemblies

semblies were appointed to meet annually, with power to supply vacancies in the electoral assembly, &c. The electoral assembly, it was ordained, shall chuse the members of the legislative body, the administrators of the department, the judges of civil tribunals, &c. The legislative body shall consist of a council of 250 ancients, one third of whom to be annually renewed, and a council of 500; the latter having power to propose laws, and the former to approve of, or reject them. The executive power shall be delegated to a directory of five members to be chosen by the legislative body, and one new member of it to be yearly elected. The directory shall have power to dispose of the armed force, to chuse generals, superintend the execution of the laws, the coining of money, &c. The council of 500, by secret scrutiny, shall draw up a list of 50 members, out of whom the council of ancients are to elect five members to compose the directory. The national convention was dissolved, October 27th, and a new convention was framed according to the model prescribed. Under this form of government the French arms were every where successful.

The king of Sardinia, A. D. 1796, was compelled to withdraw from the coalition, and to renounce all claim to Savoy and the county of Nice; the Austrians were defeated in Italy; Corsica was recovered from the British; and a treaty was concluded between France and Naples. In the following year Bonaparté constrained the Pope to sue for peace, February 19th; took possession of Mantua; triumphed over the Austrians in Italy; made himself master of Tyrol, and the adjacent territories; and advanced to Gratz, 82 miles south south-west of Vienna. In April the preliminaries of peace were concluded between Austria and France. That enterprising and fortunate commander next directed his victorious arms against the Venetian states. A body of French troops entered Venice, May 16th; overturned the existing government, and arranged all matters conformably to the republican system. A treaty of peace was signed at Campo Formio, September 4th, by the plenipotentiaries of Austria

Austria and France. In this treaty the Austrian Netherlands were ceded to the French republic.

While the fleets of France were confined within their own ports, their Dutch and Spanish allies were severely handled. The British navy, under the command of Sir John Jervis, now Lord St. Vincent, gained a great victory, February 14th 1797, over the Spanish fleet off Cape St Vincent; and Admiral Duncan, October 11th, defeated the Dutch fleet near Camperdown.

Peace betwixt Germany and France was of short duration; and the most formidable preparations were made for the recommencement of hostilities by both parties. But the situation of France, at this period, was extremely critical. The directory had lost the confidence of the people; in every branch of the executive department, mismanagement and infamous peculation prevailed, in consequence of which the finances were exhausted. In the apprehension of an immediate rupture with Austria, 600,000,000 livres were required for public services; and the ways and means of raising this sum were equally unpopular and oppressive. The war minister had promised Jourdain 150,000 men to open the campaign in 1799, but 66,000 only were granted; while the Austrian army amounted to more than double that number. The enthusiasm, however, of the French supplied every defect. Meanwhile, three of the directory were constrained to resign, and were succeeded by men of inferior talents; but great confidence was placed in the abilities of Sieyes. On the 26th of August a British fleet of 130 transports, under the command of the Duke of York, arrived at the mouth of the Texel, penetrated into North Holland, and returned to England with the loss of 15,000 men.

Bonaparte, after an unsuccessful expedition in Egypt, re-embarked October 9th 1799, and landed at Frejus, a sea-port in France. Upon his arrival in Paris, he espoused the plan laid by Sieyes for the overthrow of the directorial government, which had been sometime totter-

ing on its basis. A provisional government was proposed and adopted, consisting of Sieyes, Ducos, and Bonaparte, having the designation of consuls, with directorial powers, and specially appointed to re-establish internal tranquillity, and to procure an honourable and permanent peace. The interval between this revolution and the publishing of the new constitution was filled up by various measures tending to correct the errors and the crimes of the directory.

The new constitution was composed of three consuls chosen for life; a senat conservateur to regulate and certify the expences of the state; a corps legislatif of 318 members named by the senate, &c. &c. The first consul was empowered to promulgate laws, to name and dismiss ministers, generals, ambassadors, counsellors of state, military officers, &c. Bonaparte, as first consul, invested with supreme power, departed from Paris, May 5th 1800; assumed the command of the army of reserve at Dijon; crossed the Alps; penetrated into Piedmont; entered the city of Milan, June 2d; defeated the Austrians in several battles; and agreed to a suspension of hostilities. Preliminaries of peace between the French and the Emperor were signed at Paris, July 29th. A treaty of peace was signed at Luneville, February 9. 1801, by which the Rhine was fixed as the just boundary between the French and German dominions; and the Adige was specified as the limit of the Cisalpine republic. A treaty was signed between the French Republic and the Ottoman Porte; and the preliminaries of peace between Great Britain and France were signed at London, October 1st. But this peace was of short duration; hostilities between France and Great Britain recommenced, and an immense flotilla was collected at Boulogne for the invasion of this island.

Napolean was declared emperor of the French in the 12th year of the republic; and in the year following his brother Joseph was proclaimed king of Italy.

FRANCE, comprehending the old and new territories, has been variously divided; namely, in respect of its civil constitution into 14 parliaments called Cours Soveraines; of its finances, into 24 or 26 generalities; of its ecclesiastical constitution, into 18 provinces; and, with regard to its military constitution, into 32 governments. By geographers it is sometimes divided into 12 governments; four of which, viz. Picardy, Normandy, Isle de France, and Champagne, are situate towards the north; four lie in the middle of the kingdom, near the banks of the Loire and Saone, viz. Bretagne, Orleanois, Lyonnois, and Bourgogne; and four towards the south, viz. Provence, Dauphiné, Languedoc, and Guienne. To these are added the new acquisitions. Others divide this kingdom into 15 provinces, exclusive of the acquired territories.

M. Necker's division of France into 29 generalities, is as follows:

	Generalities.	Provinces.	Sq. miles.	Population
	France, exclusive of Corsica, contains – – –		155,333	24,676,000
1	Aix,	Provence, – – – – –	6,601	754,400
2	Amiens,	the greatest part of Picardie, – –	2,630	533,000
3	Auch & Pau,	the eastern part of Guienne, – –	7,761$\frac{3}{5}$	813,000
4	Besançon,	Franche-Comté, – – –	5,019$\frac{3}{5}$	678,800
5	Bourdeaux & Bayonne,	western part of Guienne, – –	9,362$\frac{4}{5}$	439,000
6	Bourges, &c.	in Bourbonnois, and in Nivernois, – –	3,954$\frac{1}{5}$	512,500
7	Chalons.	the greatest part of Champagne, and part of Brie,	7,063$\frac{1}{5}$	812,800
8	Dijon,	Bourgogne, Maçonnois, Gex, Bugey, Bresse, & Dombe,	6,821$\frac{1}{5}$	87,300
9	Grenoble,	Orange and Dauphiné, – –	5,898$\frac{1}{5}$	664,600
10	La Rochelle,	St Onge, Aunis, and part of Angoumois, –	2,672$\frac{3}{5}$	479,700
11	Lille,	Artois, and almost the whole of Flanders, –	2,385$\frac{4}{5}$	734,600
12	Limoges,	Limosin, and the greatest part of Angoumois, –	4,919	646,500
13	Lyon,	Lyonnois, Forez, Beaujolois, – –	2,397$\frac{4}{5}$	633,600
14	Metz,	Metz, Toul, Verdun, French Luxembourg, Sedan, Raucour, with some districts in Alsace and Lorraine,	2,960$\frac{3}{5}$	349,300
15	Montauban,	Rouergue and Guercy, – – –	3,362$\frac{4}{5}$	530,200
16	Montpellier,	Languedoc, – – –	12,330$\frac{3}{5}$	699,200
17	Moulins,	Bourbonnois, most part of Nivernois, with a small portion of Auvergne, – – –	5,166$\frac{3}{5}$	564,400
18	Nancy,	Lorrain, Bois-le-duc, – – –	5,149$\frac{1}{5}$	834,600
19	Orleans,	Orleannois, Sologne, Blaisois, Vendemois, Lower Perche, Dunois, Beauce, Chartres, greater part of Gatinois, with a district of Nivernois, –	5,882$\frac{1}{5}$	709,400
20	Paris,	Most part of Isle de France, and la Brie, –	6,664$\frac{3}{5}$	1,781,700
21	Perpignan,	Rousillon, Foix, – – –	1,649$\frac{2}{5}$	188,900
22	Poitiers,	Upper and Lower Poitou, – – –	6,089$\frac{3}{4}$	690,500

Generalities.	Provinces.	Sq. miles.	Population.
23 Rennes,	Bretagne,	10,221	2,276,000
24 Riom,		3,749$\frac{4}{5}$	681,500
25 Normandy,	Rouen, Caen, Alençon,	9,117$\frac{1}{5}$	1,912,300
26 Soissons,	Soissonnois, Laonnois, Thierache, with a part of Brie,	2,560$\frac{1}{5}$	437,200
27 Strasburg,	Alsace,	3,050$\frac{3}{5}$	626,400
28 Tours,	Touraine, Anjou, Maine, with a small part of Lower Poitou,	8,096$\frac{1}{5}$	1,338,700
29 Valenciennes,	Hainault, Cambresis, with a small portion of Flanders,	1,481$\frac{3}{5}$	265,200
		155,333$\frac{1}{5}$	24,676,000

As the division regulated by the military constitution, is adopted by the most approved French geographers, I shall describe the several provinces of the French dominions in the following order:

1. Isle de France,
2. Picardy,
3. Champagne,
4. Lorrain,
5. Alsace,
6. Franche-Comté,
7. Bourgogne,
8. Dauphiné,
9. Provence,
10. Languedoc,
11. St Foix,
12. Rousillon,
13. Navarre & Bearn,
14. Guienne & Gascogne,
15. St Onge & Angoumois,
16. Aunis,
17. Poitou,
18. Bretagne,
19. Normandy,
20. Havre de Grace,
21. Maine & Perche,
22. Orleanois,
23. Nivernois,
24. Bourbonois,
25. Lyonnois,
26. Auvergne,
27. Limosin,
28. La Merche,
29. Berry,
30. Touraine,
31. Anjou,
32. Samur,
33. Netherlands,
34. Possessions in other parts of the globe.

Maps.—Many maps of France and of its several provinces have been constructed. Omitting those of an ancient date, L'Isle, A. D. 1703, published a map of this kingdom; and Homann's heirs executed another in 1741. D'Anville's maps are more accurate than either of the preceding. In Robert's Atlas, there is a map of France, and maps of the provinces, dated A. D. 1742. Buache's map of France Physique appeared in 1746. Jailot constructed maps of France, divided into military and ecclesiastical governments, and a map of the post roads. A general map of rivers and canals, A. D. 1781, is contained in two sheets. R. J. Julien published a map in 24 small folio pages. L. Cassini's 183 sheet map was begun A. D. 1744, and completed about 1794. Atlas National, in 85 sheets, is well executed. A map of France Physique,

sique, and another of France divided into departments, elegantly engraved, were published, A. D. 1802, in illustration of a work, intituled, Statistique de la France. The map constructed for this work is distinguished for its accuracy and elegance.

1. ISLE DE FRANCE.

Isle de France, a fertile province abounding in grain, fruits, and wine, is bounded on the north by Picardy, on the east by Champagne, on the south by Orleanois, on the west by Normandy; its greatest extent from north to south being 115, and its mean breadth 80 miles. Watered by the Oise, the Marne, and the Seine, it comprehends 10 small districts, viz. Isle de France, properly so called, Brie Francaise, Gatinais, Hurepoix, Mantais, Vexin-Francais, Beauvaisis, Valais, Soissonnais and Laonais.

Cities, &c.—Paris, the capital of France, and an archbishop's see, is a large city of a circular form, 11 miles in circumference, pleasantly situate in a plain, on both sides of the Seine, 98 leagues south south-east of London, 268 north-west of Vienna, 280 north-east of Madrid, 260 north-west of Rome, 490 west north-west of Constantinople, 340 north-east of Lisbon, 590 south-west of Moscow, 250 south-west of Copenhagen, and 380 south-west of Stockholm.

In the time of the Romans, before the Christian æra, a small town called Lutetia stood on the Isle du Palais, where Julian the apostate built a palace, some remains of which are extant in Rué de la Harpe. Under the French kings it was enlarged on either side of the river Seine. By Hugh Capet it was divided into quarters about the year 954. Philip the August environed it with a wall, and paved the streets of the three divisions, viz. *la Cité* surrounded by the river, *la Ville* to the north, and *l'Université* to the south. In 1416 it was divided into 16, in 1702 into 20, and in 1788 into 60, districts. It has 14 suburbs, the finest of

of which is that of St Germain. Before the revolution, it contained 51 parish churches, 20 not parochial, 17 collegiate churches, 40 chapels, 3 abbies, 22 priories, and 50 convents for men; 7 abbies, 6 priories, and 53 convents for women; 36 hospitals, an university, 8 public libraries, 4 royal palaces, 4 castles, 73 market places, 60 fountains, 12 bridges on the Seine, and upwards of 600,000 inhabitants.

The streets, in general, are narrow, without accommodation for foot passengers, and the houses are indifferently built, from three to seven stories in height. During six months of the year, the streets are lighted at night by lanthorns suspended upon cords stretched across from one window to another. Good water is scarce, and that of the turbid Seine is generally used.

There are three small islands in the Seine, *viz.*—Isle du Palais, St Louis, and Louvier. The last, fronting the grand arsenal, is inconsiderable. The second contains the parish church of St Louis, and other edificies. The first, of an oval form, is 550 toises in length, and 150 in breadth, covered with buildings. These islands, by bridges of wood and stone, have a communication with one another, and with other parts of the town.

Many of the public buildings are decorated with a profusion of paintings, tapestry, and statues. The Louvre is a magnificent edifice, forming an equilateral quadrangle, with a court in the centre 63 toises square, containing splendid apartments, a gallery 227 toises long, with upwards of 180 models of French and other fortifications, an invaluable collection of exquisite paintings, &c. The Thuilleries, now called Palais National, begun A. D. 1564, and completed in 1600, consists of five pavilions and four corps de logis, above 168 toises long, with one of the handsomest gardens in Europe. The palace of Luxembourg, now Palais du Senat Conservateur, is a regular piece of architecture, with a cabinet of paintings, fine gardens, &c. The Royal, now the National, Observatory, in the Fauxbourg St Jacques, is a stately edifice, between 80 and 90 feet in height,

height, with a platform at top, on the most elevated site in Paris. It was founded A. D. 1667, and neither iron nor wood was used in its construction, except the stair-case. The ancient castle, called the Bastile, at Porte St Antoine, was demolished July 14th 1789. The university was established in the twelfth century, during the reign of Louis XI. and under Philip II. it began to assume its recent form. It comprehended 43 colleges; but in eleven of these only were lectures read. The most considerable of them was the Sorbonne, founded A. D. 1252, with a large library. The college of Navarre was founded for the study of theology, and in it were the records of the university deposited. The college of Mazarine, or of the four nations, was instituted for the reception of the children of the French, Italians, Spaniards and Germans. To the faculty of medicine, founded A. D. 1477, 100 docteurs regens belonged, and five professors taught in their ecole de medicine. At present there are 20 professors, two for each branch of the science.

Before the revolution, Paris could boast of several flourishing literary societies; five of which held their meetings in the Louvre, *viz.* Academie Francoise, established A. D. 1635,---des Inscriptions and belles lettres in 1663,---des Sciences in 1666,—de Peinture and de Sculpture in 1648, —d'Architecture in 1671.

Among the new literary establishments are,—Institut National des Sciences et Arts, composed of 144 members, in the Louvre,—Lycée des Arts, founded A. D. 1792, in the garden of Palais-Egalité,—Lycée Republicain, at the corner of Rue St Honoré, founded 1789,---Societé des Belles Lettres, in Palais National des Sciences and Arts.

There are many public libraries, viz. Bibliotheque Nationale, consisting of 300,000 printed volumes, and 80,000 manuscripts, with cabinets of medals and antiques, in Rue de Richelieu,---Bibliotheque de la Ville, rich in botanical works and drawings of plants, in Rue Antoine,---De St Victor,—Du Pantheon, composed of 100,000 volumes, and 2000 manuscripts,---Des Quatre Nations,—De L'Arsenal, in Cour des Veterans, supposed

supposed to contain 75,000 volumes, and 600 manuscripts,—De L'Institut National,—Du Tribunal, &c.

The cabinets of natural curiosities, coins, and antiques; the tapestry and looking-glass manufactories; and the scarlet dying-houses of the Gobelins; are admired by foreigners.

Institutions for the sick and destitute are numerous and liberally endued. In the space of one year, 5000 patients have been admitted into Hotel Dieu; and 12000 beds are continually in readiness. Hospital General is a noble foundation for the female sex. Hotel Royale des Invalides was erected by Louis XIV. A. D. 1670, for the relief of disabled soldiers and sailors. It forms a quadrangle of 17 acres, divided into five courts composed of lodgings three stories high, in the south-west part of the city. Near it the Royal Military Academy was founded A. D. 1751, for 500 young noblemen destined for a military life.

There are 22 theatres, besides many other places of amusement and fashionable resort.

The paintings, statues, and monuments of the churches, merit particular notice, and have been frequently enumerated and described.

The principal church is Notre Dame, a Gothic structure 396 feet long, 140 in breadth, and 102 in height. On the inside are two rows of pillars, and 45 chapels. The archbishop resided in its vicinity. The church of the abbey of St Genevive is a master piece of architecture; and the church of the Carthusian convent is celebrated for its exquisite paintings.

Several of the public squares are elegant, as La Place Royale; De Victoires; De Louis le Grand; La Greve; Dauphiné, &c.

Pont Neuf, new bridge, begun in 1578, and finished 1604, consists of 12 arches 170 toises in length, and 12 in breadth, across the extremity of Isle du Palais.

Pont

Pont Royal is remarkable for the durability of its construction. The new bridge of Neuilly was finished in 1772. Each of its arches is 120 feet wide, and 30 high.

Below the city there is a vast subterranean cavern called the Quarries, formed by the immense quantities of stone dug out thence for the purpose of building the city and suburbs. One entrance to this cavern is at the Observatoire National, and the other at Val de Grace. The extent from the entrance to the exit of those circuitous subterranean walks, is computed to be several miles, though the distance between the places now mentioned does not exceed half a mile. The descent at the Observatory is 360 feet perpendicular. The path below is narrow for a considerable way, after which it widens into spacious streets, all of which are marked with names, in the same manner as the streets of the city. The general height of the roof is about nine or ten feet; but in some parts it rises to thirty, or even forty. As several places in the suburbs formerly sunk to a great depth, care has been taken to render those cavities secure by props of wood and stone.

The environs of Paris are diversified with woods, towns, villages, and seats.

In the wood or park of Vincennes, containing 1467 acres, stood a castle or palace, which was considerably improved and enlarged by Francis I., Henry II., Louis XIII. and XIV. It was an oblong square building, encompassed with dry ditches, and sometimes used as a state prison. An edict for the demolition and sale of this royal seat, together with those of Madrid, Blois, and La Muette, was registered by the parliament of Paris in March 1788, and was published the same month. The palace of Madrid in the wood of Boulogne was built by Francis I, A. D. 1529, after the model of the palace of Madrid in Spain.

Versailles, a considerable and regularly built town and bishop's see, containing 35,000 inhabitants, on an eminence in a champaigne country, four leagues south-west of the capital. Louis XIII. built a castle there,

which Louis XIV. converted into a magnificent palace. Though the style of the architecture cannot be admired, yet that part of the edifice which fronts the gardens is beautiful. The grand gallery, supposed to be the finest in Europe, is 72 yards long, and 14 broad, with 17 windows. The marble saloon contains a noble painting of Le Meine, in which 140 figures are represented. The apartments, before the revolution, were highly ornamented and richly furnished; and the cabinet of jewels and antiquities was collected at an immense expence. The gardens, statues, groves, grottos, canals, fountains, and water-works, form a scene equally grand and picturesque. But the palace has been recently stript of most of its furniture, paintings, and ornaments. The middle part is applied to the accommodation of from 1500 to 2000 invalids. The gardens and water-works are now neglected. A manufactory of arms is established in a large building formerly occupied by officers attached to the court. The Petit Trianon, the favourite hermitage of the unfortunate Antoinette, in the park of Versailles, at the extremity of a canal, is now let to a tavern keeper, who makes his rent by balls, fêtes, and illuminations, during the summer.

Marly, a village on the left hand of the Seine, and north of Versailles, where Louis XIV. built a handsome palace in a wood, with a garden formerly diversified with hedge-work, covered green walks, and water-works, but now greatly decayed. The hydraulic engine for raising water stands on a branch of the Seine, and is composed of 14 wheels, turned by the current, which works 225 pumps at once, throwing up water into a reservoir, at the distance of 600 toises from the river; and thence it is conveyed by an aqueduct over 30 arches of surprising height, and afterwards through two iron pipes into the grand reservoir at Marly, whose superfices is 18,700 toises, and depth 15 feet. Thence it is conducted to Versailles.

St Dennis, S. Dionysii, a small town, two leagues north of Paris, in an agreeable and fertile plain watered by the Seine. It contains a large Benedictine

Benedictine abbey, founded A. D. 1600. The crown jewels are deposited in the church, which was the place of interment for the royal family. In the town are 4,425 inhabitants.

Beaumont, a small town pleasantly situate on the declivity of a hill, bathed by the Oise, north of St Dennis, and near the north-west extremity of the district called Isle de France. On the summit of the hill is a ruinous castle.

Crespy, or Crepi, an inconsiderable place between two rivers, north-east of St Dennis, in the centre of Vallois, seven leagues from Meaux, and 13 north of the capital.

Senlis, an ancient city containing 4312 inhabitants, the birth-place of Simon Goulart, and formerly a bishop's see, of an oval form, on the declivity of a hill, defended by a wall, a dry moat, and bastions, near the rivulet Nonette in Vallois, two leagues from Chantilly, eight from Meaux, and 10 north of Paris. The steeple of the cathedral is one of the highest in France. This city had formerly its own laws, but is now decayed and a place of no trade. In its vicinity are several fine villas and seats.

Chantilly, a considerable town two leagues below Senlis and nine north of Paris, near the western extremity of Vallois. Its magnificent palace, now in ruins, with a fine park and gardens, belonged to the Prince of Condé.

Verberie, a small town two leagues north north-west of Crespy, and three and a half north north-east of Senlis, on the Oise. Here three councils were held, viz. in 853, 863, and 869. In its vicinity there is a mineral spring.

Compiegne, a small and indifferently fortified town, the seat of five councils, and a place of some trade in corn, wood, and wool, at the northern extremity of Vallois, eight leagues west of Soissons, and seven north-east of Senlis. It contains four parishes, a Benedictine abbey, and 6359 inhabitants. Here the Maid of Orleans was taken prisoner by the

English in 1430; and in 1624 a treaty with the Netherlands was concluded by Cardinal Richelieu. It is situate on the Oise, near a forest consisting of 27,000 acres.

Soissons, Augusta Suessionum, a considerable, tolerably built, populous city, containing 8,189 inhabitants, a bishop's see, the seat of 11 councils, and of an academy established in 1674, in a fertile and agreeable tract watered by the Aisne, near the centre of a district of the same name, 20 leagues north-east of Paris. Environed by a wall, it has an old castle. It is the birth-place of Julian d'Hericourt, Paschase Ratbert, Jacques Robbe, Hubert Sussannau, &c.

Noyon, an ancient, well built, thinly inhabited city, containing eight parishes, seven religious houses, and 4000 inhabitants, a quarter of a league from the Oise, nine leagues north north-west of Soissons, and 24 north north-east of Paris. Here Calvin was born; Hugh Capet was proclaimed king, A. D. 987; and Chilperic II. interred in 721. The see of its bishop include 17 abbies and 450 parishes. The treaty of Noyon was concluded, A. D. 1516, between Francis I. and Charles of Austria. In this place are manufactories of cloth, stockings, &c.

Laon, a regular and well built city, containing 8000 inhabitants, erected into a bishopric, A. D. 496, the birth-place of Charles I. Duke of Lorraine, pleasantly situate on an eminence 50 toises high, in a plain of Laonois, near the north-east extremity of the province, 12 leagues north-west of Rheims, 10 north-east of Soissons. The cathedral was built, A. D. 1115; and the bishop was second duke and peer of France. In the city and suburbs are 16 parishes, three abbeys, five convents, an hospital, and 6,691 inhabitants. The wine in its vicinity is esteemed.

Eppe, a little town two leagues from Laon, in a plain, with a strong castle, whose walls are 10 feet thick and flanked with three towers, on a gentle eminence.

Neuchatel, a small place bathed by the Aisne, about five leagues north of Rheims, on the eastern border of Laonois.

Beauvais,

Beauvais, an ancient, considerable, walled city, and formerly a bishop's see; containing a fine gothic cathedral, six collegiate churches, 13 parish churches, 10 abbeys, and other religious houses, an hospital, &c. and 15,000 inhabitants; the capital of Beavoisis, on the river Teraim, 16 leagues north north-west of Paris. This place was in vain besieged by the English, A. D. 1443, and by Charles Duke of Bourgogne in 1472. A manufacture of tapestry and woollen cloth has flourished here since the year 1664.

Clermont, a small town containing 1,195 inhabitants, on an eminence, near the influx of the Bresche into the Oise, 15 leagues north of Paris, and five north north-west of Senlis. The environs are picturesque and well cultivated.

Pqntoise, *i. e.* the bridge on the Oise, a small town containing 5,200 inhabitants, defended by a castle, on the declivity of a hill, in Vexin François, above the conflux of the Oise and the Seine, seven leagues north north-west of Paris, and 21 south-east of Rouen. The army of Charles VII. took this place by assault from the English, A. D. 1442. Hither the parliament of Paris thrice removed, viz. in 1652, 1720, and 1753.

Meulan, a little old town in the form of an amphitheatre, in Mantois, on the Seine, below the influx of the Oise, eight leagues below, i. e. north-west of the capital. There is a fort on an adjacent island. The number of inhabitants in Meulan is about 1800.

Mantes, a small, indifferently built town, the birth-place of Nicolas Bernier a musician, 11 leagues north-west of the capital, on the Seine, opposite to the pleasant island of Champion. In this town Philip Augustus king of France was buried A. D. 1223. Henry IV. resided 10 years in the castle, which was demolished in 1721.

Dreux, one of the oldest towns in the kingdom, containing 5,437 inhabitants, at the foot of a hill, near the Eure, westward of Paris, not far from the border of Normandy. It has some trade in woollen cloth. A

governor

governor resides in the castle. In its vicinity a battle was fought by the Protestants and Catholics, A. D. 1562, and the Prince of Condé was made prisoner.

Epernon, a small town, with two suburbs, and a castle in ruins, on a steep declivity, six leagues south-east of Dreux, and two from Nogent-le-Roi, on the Drouette. The prospect from this place is agreeable.

Montfort Amaulry, Mons fortis Almarici, a small town on an eminence, with a ruined castle, six leagues westward of Paris, between Dreux and Versailles.

St Cloud, formerly Nogent, Novigentum, Sanctus Clodoaldus, a small town, and formerly a bishop's see, pleasantly situate on a declivity near the Seine, two leagues west of Paris. Here is a palace with fine gardens which belonged to the Duke of Orleans; and here Henry III. was assasinated A. D. 1583. It is a residence of the present emperor.

St Germain en Laye, a well built town, containing about 9000 inhabitants, on an eminence bathed by the Seine, four leagues north west of Paris. Here a convent was founded by King Robert in the wood of Laye. He afterwards built a palace, which was demolished by the English A. D. 1346. A new edifice was raised by Francis I. which was improved by succeeding princes. This palace is the birth-place of Margaret daughter of Francis I., of Henry II. of Charles IX. and of Louis XIV.

Poissy, a little town, and the birth place of St Louis, below Germain, on the Seine. Here, A. D. 1561, a conference was held between the Papists and Protestants. It contains about 2000 inhabitants.

Corbeil, a town containing four parishes and 3,200 inhabitants, on the Seine, at the influx of the Essone or Juigne, partly in the district of Brie Francoise, and partly in Hurepoix, seven leagues south of Paris. It was in vain besieged by the Duke of Burgundy A. D. 1418, and the Calvinists in 1562 were obliged to raise the siege of it, but it was taken by the Duke of Parma in 1590.

Bric-

Brie-comte-Robert, a small place containing a parish church, a convent of Minims, two abbies, and other religious houses, seven leagues south south-east of Paris, on the rivulet Yeres.

Melun, the birth place of James Amyot, an old manufacturing and trading town, defended by a castle, in Gatinois, eleven leagues south south-east of the capital, on the Seine that divides it into three parts. It was taken by the English in 1419. In its form and site, it somewhat resembles Paris, and contains 6,124 inhabitants. It has manufactures of cloth and of glass-ware.

Fontainbleau, a small town, containing 7,429 inhabitants, in Gatenois, 13 leagues southward of Paris, on the left hand of the Seine. The royal palace, the birth place of Henry III. is one of the largest and most elegant structures which belonged to the kings of France. It is an assemblage of four palaces, having five courts of different architecture, and containing about 900 apartments: each palace has a garden. One of the galleries is 100 feet long, and covered with paintings. Here the preliminaries of peace between Great Britain and France were signed A. D. 1762. The adjacent forest consists of about 25,000 English acres.

Montlheri, Mons Letherici, a little town on an eminence, in Haurepoix, about five leagues south of Paris. In its neighbourhood a battle was fought A. D. 1465, between Louis XI. and the Duke of Berri.

Rochefort and Dourdan, are two small places south-west of Montlheri, in Haurepoix.

Meudon, a small market-town at the foot of a hill, on which stands a royal palace, which was the residence of the only son of Louis XIV. near the Seine, two leagues from Paris. This palace is noted for its large and lofty terraces, its forest and extensive prospect.

2. PICARDY.

Picardy is bounded on the west by Normandy and the British Channel, on the north by Artois and the Low Countries, on the east by Champagne, on the south by Isle de France; lying between 49° 30′ and 50′ N. latitude, and between 7° 20′ and 4° 20′ E. longitude; being 130 miles from west to east, and 25—45 from north to south, except along the sea-coast, where it extends upwards of 60 miles. It contains 878,000 inhabitants.

This province, consisting, in general, of rich, deep, friable loams on a calcareous bottom, is abundantly fertile. There is some indifferent coal in Boulonois, wood is scarce, and turf is the principal fuel used by the inhabitants. There are quarries of stone and marble. Being a maritime county, its rivers and canals render it the seat of a flourishing trade. The most considerable river is the Somme that originates in Vermandois, flows westward, at Bray becomes navigable, and, augmented by several streams in its progress, falls into the British Channel at St Valery, after a course of 40 leagues.

Picardy, inseparably annexed to the crown of France by Louis XI. A. D. 1463, is commonly divided into Upper, Middle, and Lower. To Upper Picardy belong the districts of Vermandas and Tierache; the middle division contains Amienais and Santerre; and the lower, Boulonois, Ponthieu, and Vimeux.

Cities, &c.—Amiens, the birth-place of Rohault, Voiture, Du Cange and Gresset, is an ancient, large, well built, trading city, decorated with lofty towers, containing upwards of 30,000 inhabitants, agreeably situate in a plain, on the navigable Somme, in the centre of Amienois, nine leagues south-east of Abbeville, and 29 north of Paris. It is the seat of an academy of arts and sciences instituted A. D. 1750, and is famous for a manufacture of woollen and half-silk stuffs. The streets are narrow and full

full of angles, and the cathedral is a fine Gothic structure. The bishop, who was suffragan to the archbishop of Rheims, had a considerable revenue. The Spaniards took this city by stratagem A. D. 1597; but it was recovered in the same year by Henry IV. who built the citadel. Here a treaty of peace between Great Britain and France was concluded March 27th 1802.

St Gobin, a small place, eight leagues south-west of Guise, and sometime noted for its excellent manufacture of looking-glass, in which plates were cast 105 inches long, and 60 broad.

Guise, the capital of Tierache, a small town, with a strong castle, 38 leagues north-east of Paris, and 10 south south-east of Cambray, on the Oise, and near the inflexion of its course from west to south. The dutchy belonging to this place is of great extent.

Vervins, a little town of 2827 inhabitants, with some trade in grain, near the centre of Tierache, on an eminence bathed by the Serre a stream that runs south-west to the Gerre, 42 leagues from Paris, and a few leagues south-east of Guise. Here peace was concluded between France and Spain A. D. 1598.

Moncornet, on an eminence bathed by the Serre, about seven leagues south-east of Guise; Marle, with an old castle; Crepy, two leagues northward of Laon, are threesmall towns in Laonois.

La Fere, a small town, formerly fortified, and noted for its powder mill, in a marshy territory below Guise, at the conflux of the Saar and the Oise. The adjacent country may be inundated.

St Quentin, Augusta Veromanduorum, a fortified town containing 10,000 inhabitants, with an abbey of Remonstratenses, in the centre of Vermandois, near the source of the Somme, nine leagues south of Cambray, 14 east of Amiens, 13 south-east of Arras, 30 north-east of Paris. This place is famous for its fine lawns. In its neighbourhood the French were defeated by the Spaniards A. D. 1557.

Ham, a town containing three parishes, and an Augustine abbey, on the Somme, in the middle of a marshy plain, four leagues north of Noyon, and 28 north-east of Paris. A strong castle was built here about the year 1470. The walls of the tower were 36 feet thick, and 100 in diameter and height. The Spaniards took Ham after the battle of St Quentin in 1557; but it was restored by the treaty of Chateau Cambresis. Five miles hence a mine of black sulphureous inflammable earth was discovered.

Peronne, a small, populous, well fortified town, containing 3706 inhabitants, anciently a residence of the kings of the Merovingian race, in a marshy tract of Santerre, watered by the Somme, containing a cathedral, five parish churches, and four convents, ten leagues south-west of Cambray, and 32 north north-east of Paris. This town, though frequently beseiged, was never taken.

Mondidier, or Mont-Didier, a small ancient decayed town, containing upwards of 3000 inhabitants, on an eminence, near the Don, eight leagues south south-west of Peronne, and nine south-eastward of Amiens. It was the birth-place of Capperonier, a celebrated professor of Greek, who died in 1744.

Corbie, a small town with a Benedictine abbey, on the Somme, four leagues eastward of Amiens, and thirty north of Paris. It was taken by the Spaniards in 1636, and retaken the same year by Louis XIII. In 1673 its fortifications were demolished.

Dourlens, or Doulens, a town containing 2946 inhabitants, with a strong citadel, six leagues north of Amiens, on the Authie a small stream that flows north-west to the British Channel.

Bernaville, *Acheux*, and *Domart*, in the circle of Doulens, are places of little note.

Abbeville, Abatis Villa, a considerable, ill built, populous, manufacturing, and trading town, environed by a wall flanked with bastions, containing

ing 14 parishes, a Benedictine priory, 13 religious houses, an hospital, 4000 houses, and 18,000 inhabitants, in the fertile and pleasant, but marshy valley of Ponthieu, twelve miles from the mouth of the navigable Somme, 71 south of Calais, and 106 north of Paris. It is the birth-place of Sanson, Briet, Pierre du Val, &c. and is famous for fine draps des Vaurobais and Damas D'Abbeville. Its woollen manufactures were established in 1665. The streets are narrow, crooked, ill paved, dirty, and obscured by high houses. Hugh Capet built the castle A. D. 992, to check the inroads of the Normans. The country thence to Montreuil is flat, and diversified with woods and villages.

Moyenneville, *Ailly-le-Clocher*, *Gamaches*, the birth-place of Vatablus a celebrated professor of Hebrew, and *Hallencourt*, in the circle of Abbeville, are inconsiderable villages.

Cressy, or Crecy, an inconsiderable town a few leagues north of Abbeville, to the left of the Anthie, on a small stream called Maye, and famous for a battle between the English and French, A. D. 1346, in which the latter were defeated with the loss of 30,000 men.

Montreuil, the birth-place of Dionysius Lambinus, a strong town, containing 3534 inhabitants, near the north-west extremity of Ponthieu, with a castle on an eminence bathed by the rivulet Canche, three leagues from the sea, five north-west of Hesdin, eight south of Boulogne, and 47 north north-west of Paris.

Etaples, a mean place, with some trade in herrings and mackerels, in Boulonois, at the mouth of the Canche, five leagues south of Boulogne, and 50 north of Paris. It has a harbour for small vessels. According to some writers, this is Portus Iccius, where Cæsar embarked for England. This harbour is dry within at low water.

St Valery, different from St Vallery west of Dieppe, is a small place with a considerable trade, at the mouth of the Somme. It has no proper harbour. It lies about eight leagues north north-east of Dieppe, and

10 due south of Boulogne. The spring-tides are highest about 11 o'clock. About two leagues west from the south point of the Somme, there is a long bank, the shallowest part of which is two fathoms water.

Sancourt, a village to the south of Valery, and famous for a battle fought by the Franks and Normans, A. D. 881.

Boulogne, Bononia, a seaport town of 10,558 inhabitants, and formerly a bishop's see, at the mouth of the Liane, on the coast of the British Channel, 22 leagues west of Lisle, seven south of Calais, and 55 north of Paris. It is divided into Upper and Lower Town, the latter of which is the most considerable, and inhabited principally by tradesmen. The harbour, defended by a fort and batteries, has a difficult entrance; but it was greatly improved, A. D. 1803, when it became the rendezvous of the flotilla destined to invade Great Britain. In the road, and sheltered from east winds, there is good anchorage in 5—15 fathoms on clean sand; but north of the town there is foul ground, and small rocks along the coast. At spring-tides, it is high-water at 10 hours and 30 minutes. The distance btween this place and Romney in Kent is 30 miles. Boulonois, a district in which this town is situate, is an independent government, extending along the coast from the Canche to the border of Flanders. It constituted a portion of the ancient earldom of Flanders, and by Louis XI. was annexed to the crown of France.

Ambleteuse, a little maritime town on the Channel, defended by a fort, $2\frac{1}{2}$ leagues north of Boulogne, and five south-west of Calais. It has a convenient road for shipping, but its harbour was ruined by the English A. D. 1671. Here James II. landed after his departure out of England A. D. 1688. From St John's Road, north of it, a long and narrow reef runs south-west, on which is 4—6 fathoms water.

Ardres, a small inland strong town, on a canal which communicates with that of Calais, in a marshy territory, three leagues south south-east of Calais, and six north-east of Boulogne. To the westward, near Guignes,

Guignes, Francis I. and Henry VIII. of England had an interview, A. D. 1520, in a plain called Drap d'Or, *i. e.* the field of gold cloth.

Calais, a strong and tolerably built port-town, in a marshy site, eight leagues south-west of Dunkirk, seven east of Dover, and 59 north of Paris. It is the capital of the recovered country, so called because it was retaken by the English A. D. 1558, in whose hands it remained upwards of 200 years. An oblong square with the longest side toward the sea, it is defended by a citadel, and its harbour of difficult access by a fort. The streets are strait and well paved. It contains an arsenal built by Cardinal Richelieu, several public edifices, and 6000 inhabitants, who carry on a considerable trade. Fort Nieule, an oblong square, constructed, A. D. 1680, is supported by piles, and is joined to the citadel by a mole. The harbour is dry at ebb-tide, and has three fathoms at high-water, with a common flow. At spring-tides it has high-water about half past 11 o'clock. Opposite nearly to the west pier-head, there is a bank on which are two fathoms; but between the head and the bank is a channel having three fathoms at half flood. In times of peace two packet-boats pass between this place and Dover. A canal opens a communication with St Omer's, Graveline, Dunkirk, and Ypres. In 1594 Calais was taken by the Spaniards, who ceded it in 1598. In 1694, 1695, and 1696 it was bombarded by the English. The adjacent country by means of sluices may be laid under water. The shore, particularly towards Dunkirk, is full of sand-banks. About a mile westward, the chalk cliffs commence opposite to those of England, and the shore is skirted by high sand hills. The plain towards Gravelines is highly cultivated, and planted with many single houses, embosomed in small woods, and surrounded by meadows and corn-fields.

3. CHAMPAGNE.

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Champagne, one of the most considerable provinces in the kingdom, is bounded on the west by Isle de France and Picardy, on the east by Lorraine and Franche-Comté, on the south by Bourgogne, on the north by Picardy and the Low Countries; lying between 47° 35′ and 50° N. latitude, and between 2° 35′ and 5° 40′ E. longitude: its extent from north to south being 180, and its mean breadth 90, miles. It abounds in large plains, produces grain and psaturage, and is famous for its wine. The soil in some tracts is chalky, and in others a good loam. Some districts have a forbidding aspect, and the products of others are miserably poor. The borders of this province are covered with forests, eminences, and hills. The south and east parts are the most elevated, for thence all the rivers flow westward, or north-west, through the country, to Isle de France. The most considerable of those rivers are the following:

1. The Seine, which traverses the south-west part of the province, and passes into Isle de France below Bray—(See Gaul.)

2. The Meuse, or Maese, that flows through the district of Rethelois, in the northern corner of the province.

3. The Marne, which originates in Bassigni, runs northward, becomes navigable at Vitry, bathes Chalons, and proceeds west to the Seine, into which it falls above Paris.

4. The Aube, whose source is in Bassigni, and its termination in the Seine near Pont sur Seine.

5. The Aisne, that descends from the eastern frontier, runs north-west to Rethel, and thence westward to the Oise, in which it loses itself at Compiegne.

In the division of the kingdom between the sons of Clovis, Champagne constituted a considerable part of Austrasia, having Metz for its capital.

capital. In process of time it was governed by Dukes and by Counts. After various revolutions, it was united to the crown of France by King John A. D. 1361.

This province contains eight districts, viz. Remois, Rethelois, Pertois, Vallage, Bassigny, Senonois, Brie Champenoise, and Champagne Proper; occupied by 850,000 persons.

Cities in Champagne Proper.—*Troyes*, Augustobona, the capital of the province, is an ancient, large, tolerably built, indifferently fortified city, pleasantly situate in a level and fertile territory on the Seine, containing a fine Gothic cathedral, 14 churches, four abbies, 10 convents, one seminary, and 26,000 inhabitants; 12 leagues east north-east of Sens, 25 south of Rheims, 17 south south-west of Chalons, 38 south-east of Paris. This is the birth-place of Salomon Jarchi, a noted Rabbi in the 12th century, of Pope Urban IV., Nicolas Caussin, Charles de Cointe, Jean Passerat, Pierre Pithou, Francis Pithou, and other learned men. In August 1787 the parliament of Paris was removed to this city. The bishop, before the revolution, had a diocese containing 372 parishes and 19 abbies. The trade of Troyes is now decayed; but there are some manufactures of linen, cotton, and woollen stuffs.

Pont sur Seine, a little town eight leagues north-west of Troyes, and 22 south-east of Paris, below the junction of the Aube and the Seine.

Chalons on the Marne, Catalaunum, formerly a bishop's see, an ancient, well built town, containing a cathedral, twelve parishes, five abbies, eight convents and other religious houses, two hospitals, an academy of sciences established A. D. 1750, and 10,000 inhabitants; situate in an indifferently fertile territory, and divided into three parts by the Marne; 10 leagues south south-east of Rheims, and 36 east of Paris. It has a decayed trade in woollen stuffs, grain, and wine. The Parliament of Paris was removed hither A. D. 1592. A poor country thence to Rheims.

Epernay, a small town of 4,430 inhabitants, and formerly fortified, containing an abbey of the order of St Augustine, below Chalons, on the Marne,

Marne, which divides it into two parts, in a territory as famous for its wine as that of Hautvilliers in its vicinity, seven leagues north-west of Chalons, six south of Rheims, 30 east north-east of Paris. This place was besieged and taken by Henry IV. A. D. 1592.

Chatillon, a little town, containing 1000 inhabitants, noted for being the birth-place of Urban II. on the Marne, three leagues below, i. e. west of Epernay, and seven south-west of Rheims.

Croisette, an inconsiderable place near Chalons, where the inhabitants, assisted by Charles king of Naples, killed 8000 English.

A few miles north-east of Chalons, near the river Bussy, there is a field called Camp d'Attila.

Cities in Remois.—*Rheims* is one of the most ancient cities in the kingdom, large and well built, on the Vesle, 10 leagues north-west of Chalons, 25 north of Troyes, 35 east north-east of Paris. It carries on a considerable trade in woollen and silk stuffs and gingerbread; and is the birth-place of Thierry, Pluche, Colbert, Linguet, &c. The archbishop was the first duke and peer of France, perpetual legate of the see of Rome, and primate of Gallia Belgica. The cathedral is 450 feet long, 95 broad, and 110 high. The principal door of the cathedral is remarkable for its architecture, and the great altar, at which the kings were crowned, is plated with gold. The university was founded A. D. 1547. There are several Roman antiquities, viz. two triumphal arches, an amphitheatre, &c. Its fertile territory, environed by little hills, is noted for excellent wine. The country hence to Dijon is diversified with woods, rivers, and plains. Rheims contains about 31,290 inhabitants.

Towns in Rethelois, a district consisting partly of woods where are iron-mines, and partly of meadow-ground.

Rethel, a little town of 4,862 inhabitants, where Cæsar built a fortress, near the Aisne, 10 leagues north-east of Rheims, 13 south-west of Sedan, 43 north-east of Paris. It was taken by the Spaniards in 1650, and

and again, in 1652, but recovered by M. Turenne. The principal trade of the inhabitants is in iron.

Charleville, on the Meuse, called the village of Arches till the year 1609, when Charles duke of Nevers rebuilt it on a regular plan, and fortified it. On Mount Olympus, Louis XIII. built a citadel A. D. 1636, which was demolished in 1688. The town contains 7,240 inhabitants. It has manufactures of fire-arms, woollen-cloth, nails, marble, &c.

Mezieres, Maceriæ, a strong little town of 3,310 inhabitants, with a citadel, partly in a valley, and partly on an eminence, bathed by the Meuse, eight leagues north-east of Rethel, five north-west of Sedan, 51 north-east of Paris. This place was bravely defended by Bayard against a powerful army under the command of Charles V.

Chateau-Porcien, a little town on the Aisne, two leagues west of Rethel, with a castle on a rock, containing about 1,500 inhabitants.

Rocroy, a small town fortified by five bastions, 12 leagues north of Rethel, and $2\frac{1}{2}$ from the Meuse, on the border of Hainault. In the adjacent plain, the Prince of Condé defeated the Spaniards, March 1643. This town contains 2,857 inhabitants.

Towns, &c. in *Pertois*, a district extending along the Marne.

Vitry la François, a town consisting of two large streets intersecting each other at right angles, built by Francis I. after the demolition of Vitry-le-brulé, by Charles V. Situate on the Marne, 13 leagues north north-east of Troyes, it has a considerable trade, and is noted for being the birth-place of Abraham Moivre, a celebrated mathematician. It contains 6,925 inhabitants.

Menehoud, Sanctae Manechildis Fanum, an ancient town bathed by the Aisne, in a marshy site, between two rocks, eight leagues north-east of Chalons. Formerly fortified, it held out a siege against the Duke of Lorraine A. D. 1590, but its fortifications have been demolished. It contains about 3000 inhabitants.

Dizier, a small town 17 leagues north-east of Troyes, on the Marne, where that river begins to be navigable. In 1554, it held out a siege against the army of Charles V.

Towns, &c. in *Vallage*, a district abounding in forests, and vallies yielding excellent pastures.

Bar-sur-Aube, an old and decayed town, containing 4,030 inhabitants, at the foot of a hill, eight leagues north-west of Chamont. Its castle was demolished in the wars of the Dukes of Burgundy. The environs produce good wine.

Joinville, a town on the Marne, eight leagues north of Chaumont, and 18 east north-east of Troyes, at the foot of a hill, on whose summit is a castle which belonged to the Duke of Orleans. In the church are several fine monuments of the Dukes of Guise. The adjacent territory produces great quantities of wine.

Vassy, an old inconsiderable town, and the birth-place of Isaac Jaquelot, on the Bloise, a few leagues north-west of Joinville. Here the persecution of the Protestants began, A. D. 1562.

Attencourt, on the Bloise, six miles north of Vassy, and noted for its iron mines and mineral springs.

Clairvaux, a small town, with one of the finest and richest abbies in France, founded A. D. 1115, in a valley two leagues south of Bar. This abbey has an excellent library.

In *Bassigni*, a district composed of forest and fertile plains, are the following places of note.

Chaumont, a small manufacturing town, with an old castle on a hill, bathed by the Marne, six leagues northward of Langres. Its fortifications consist of an old wall and 10 bastions, with a ditch. Many of its inhabitants are employed in the manufacture of gloves, stockings, drugs, candles, cutlery-ware, &c.

Langres, Andemandunum, an ancient town, and formerly a bishop's see, containing three parishes, seven convents, two hospitals, 1800 dwelling

ling houses, and 7283 inhabitants, in an elevated site near the source of the Marne, 25 leagues south-east of Troyes, not far from the confines of Lorrain and Bourgogne. This town is famous for its cutlery ware, drugs, cotton cloth, paper-mills, &c., and for being the birth-place of M. Diderot, a profound metaphysician. It contains some Roman antiquities.

Bourbonne, a little town famous for its baths and mineral waters impregnated with sulphur, eastward of Langres, on the border of Lorraine. In 1719 it was destroyed by fire.

Chateau Vilain, a small town with an old castle, on the right hand of the Aube, four leagues westward of Chaumont, near an extensive forest.

Audelot, formerly a considerable and strong town, now a mean place, with ruins of fortifications, remains of an amphitheatre, and other monuments of antiquity, a few leagues north of Chamont.

Senonois, the south-west district of Champagne, contains,

Sens, Agendicum, an ancient, considerable, indifferently built, thinly inhabited city, and formerly an archbishop's see, with little trade, advantageously situate at the confluence of the Vanne and the Yonne, 12 leagues north north-west of Auxerre, 13 west of Troyes, 27 south-east of Paris, and 33 south-west of Rheims. The cathedral is a large structure. It was the seat of several provincial councils, of which that in the year 1140 is the most famous. It contains upwards of 10,600 inhabitants.

Tonnerre, Ternodurum, a small town of 4,261 inhabitants, and the birth-place of Madam d'Eon, on the declivity of a hill by which it is defended from the south wind, near the river Armançon, 12 leagues south of Troyes, seven from Auxerre, 22 from Dijon. It consisted anciently of three towns, called Upper, and Lower, and St Michel. It was demolished A. D. 1414, by the Duke of Burgundy, and afterwards was rebuilt. In the church a meridian line 60 feet in length was drawn with

great precision, A. D. 1786, by Camille Ferouillac. The environs produce good wine.

Chables, a little town famous for its white wine, and for a battle fought in its vicinity A. D. 841. It is situate between Tonnerre and Auxerre.

Villeneuve, a small town between Sens and Troyes, on the Vanne, containing 6000 inhabitants.

Joigny, a town environed by a thick wall, flanked with large towers, pleasantly situate on a gentle declivity bathed by the Yonne, six leagues south south-east of Sens. The adjacent territory yields grain, wine, and pastures.

Towns, &c. in *Brie*, the north-west district of Champagne.

Meaux, Meldorum Urbs, a town and bishop's see, divided by the Marne, in a territory yielding good wine and pastures, eight leagues south-east of Senlis, and 10 east north-east of Paris. It carries on some trade in grain, wool, and cheese. Here the reformation in France first declared itself under Francis I. Its diocese contains 227 parishes, and the town itself 6,447 inhabitants.

Chateau-Thierri, Castrum Theodorici, a town containing three parish churches, several religious houses, and 4,160 inhabitants, the birth-place of Fontaine, with an old castle on an eminence bathed by the Marne, eight leagues eastward of Meaux. The neighbouring country is pleasantly varied.

Provins, formerly a considerable, now a small well built town, containing four parishes, an abbey, several religious houses, and 5,503 inhabitants, 17 leagues south-east of Paris, on the Vouzie.

Sedan, one of the keys of the kingdom, the birth-place of M. de Turrenne and of Charles Drelincourt, in a district of Luxembourg annexed to Retelois, 12 leagues north-east of Rethel, on the river Meuse. It is a strong town containing 10,544 inhabitants, defended by a castle, with large suburbs. Here was an academy for Protestants before the re-

vocation

vocation of the edict of Nantes. Its manufactures are fine cloth, bone-lace, &c.

Mouzon, Mosonum, a small town with a rich Benedictine abbey, the birth-place of Mabillon, on a declivity bathed by the Meuse, three leagues from Sedan. Its fortifications were demolished by Louis XIV. A. D. 1671. Its environs yield abundance of grain, wine, and excellent pastures.

4. LORRAINE.

Lorraine, so called from Lotharius II. grandson to the Emperor Louis I., constituted the most considerable part of the kingdom of Austrasia; and is bounded on the north by Luxembourg and the Palatinate, on the east by Alsace from which it is separated by the Vosge or Vauge mountains, on the south by Franche-Comté, and on the west by Champagne; lying between 47° 50′ and 49° 40′ north latitude, and between 4° 50′ and 7° 40′ east longitude; being 39 leagues from north to south, and 22–36 from west to east; containing 880,000 inhabitants.

Several parts of this country are mountainous and woody, containing mineral springs, with mines of iron, copper, and tin; others produce abundance of grain and excellent pasture. The soil is poor, partly loam and vegetable mould, partly calcareous, but there are some rich districts.

The most considerable rivers are the following, viz.

1. The *Moselle*, which originates in Mount Vauge, near the south-east extremity of Lorraine, flows northward through the middle of it, and on the right receives the Meurte below the capital.

2. The *Saar*, that waters the north-east corner of the province, and falls into the Moselle beyond the northern boundary, near Treves.

3. The *Meuse*, whose source is in Bourgogne, whence it proceeds northward near the confines of Champagne.

From the date of its establishment, Lorraine remained in the hands of the imperial family until the middle of the 16th century, when the bishoprics

bishoprics of Metz, Toul, and Verdun, were united to the crown of France; and the whole of it became a province of the French dominions, A. D. 1766. At present it comprehends the dutchies of Lorraine and Bar, together with the territories of Metz, Verdun, and Toul. The best map of Lorraine is that of Jaillot.

1. The dutchy of Lorraine consists of three large districts, viz. Nancy, Vosge, and the German district; which are subdivided into 25 bailiages.

Cities, &c. in this Dutchy.---Nancy, the capital of the dutchy, a bishop's see, and formerly the ducal residence, is divided into the old and new town, the former an oblong square 300 by 200 toises, mean and indifferently built, environed by a wall and bastions; the latter, a regular and handsome town 500 by 300 toises; both containing six parish churches, a Benedictine abbey, twenty convents, two hospitals, an university, an academy of sciences established A. D. 1751, and 30,000 inhabitants; situate in a delightful plain at the foot of a hill, almost in the centre of the province; twenty-two leagues south of Luxembourg, ten south of Metz, six east of Toul, and sixty-six eastward of Paris. Its fortifications were demolished in 1661, and the town itself was ceded to France by the treaty of Vienne in 1736. The cathedral is an elegant building, adorned with two towers and a cupola. Nancy is the birth-place of Calot, Le Clerc, Maimbourg, &c. and its inhabitants manufacture cloth of all qualities.

Rosieres, a small old town, noted for its salt springs, on the Meurte, two leagues south-east of the capital.

Chate, a little town, formerly fortified, containing a parish church, two convents, and an hospital, on the Moselle, six leagues south of Rosieres.

Charmes, on the Moselle, eight leagues south of Nancy; and Vezelise, Veselium, on the Brenon, six leagues south south-west of the capital, are places of little note.

Neufchateau,

Neufchateau, Neomagus, and Neocastrum, a town containing two parishes, one priory, six convents, one hospital, and about 1000 inhabitants, near the influx of the Mouzon into the Meuse, eleven leagues south-west of Nancy. It has manufactures of cloth of various qualities, with some trade in grain and wine. Four miles thence, at the village of Fruze, are the traces of a Roman camp.

Domremy, or Dome-remi-la-pucelle, two leagues from Neufchateau, and three from Vaucouleurs. It was the native place of the celebrated Joan D'Arc, commonly called the Maid of Orleans, who performed such signal services to King Charles against the English. In the neighbouring district is the limit stone fixed by the Emperor Henry II. and King Robert, as the common boundary of their states.

Mirecourt, Mercurii Curtis, a little town, containing four convents, an hospital, and 5064 inhabitants, ten leagues south of Nancy, and seventy-two south-east of Paris, on the Madon, a small stream that runs northward to the Moselle. This town is noted for instruments of music, bone-lace, &c.

Darney, a market town on the Saone, south of Nancy, and south-east of Neufchateau, containing about 600 inhabitants.

Epinal, an open, populous, trading town, of about 5000 inhabitants, formerly fortified, divided into two parts, containing an abbey, four convents, &c. 14 leagues south south-east of Nancy, on the Moselle. Its manufactures and articles of trade are thread, oil, grain, flax, timber, &c.

Arche, an inconsiderable place bathed by the Moselle, between Remiremont and Nancy.

Remiremont, a walled market town, containing an abbey for the reception of ladies of noble descent, and 2250 inhabitants, in a valley watered by the Moselle, at the foot of Mont Vosges, a hilly district, 18 leagues south south-east of Nancy, 12 north north-west of Montbelliard, and 80 from Paris. It has some trade in grain, cloth, thread, paper, oil, &c.

Plombieres,

Plombieres, a small open place between two hills, on the Eaugrogne, and famous for its mineral springs, two leagues south-west of Remiremont, four north-east of Luxeuil, and seventeen south of Nancy.

Bruyeres, a little town, containing an hospital and a convent, with the ruins of a castle, near Mount Avison, one of the Vosges, 14 leagues south-east of Nancy.

Diez, a small regularly built town, and formerly a bishop's see, containing a cathedral, a parish church, a convent, and an hospital, with a suburb, in the valley of Galilee watered by the Meurte, among the rugged Vosges, twelve leagues south south-east of Luneville.

Remberviller, a town on a declivity, containing a parish church, two convents, and an hospital, on the Agne, five leagues north-west of Diez.

Luneville, an old and formerly a fortified town, containing an Augustine abbey, several religious houses, and an hospital, with a castle, in a low marshy tract between the Vezouze and the Meurte, five leagues south-east of Nancy, 25 west of Strasburg, and 78 eastward of Paris. The greater part of its fine palace was consumed by fire A. D. 1755. It now contains about 9600 inhabitants.

Salm, an inconsiderable place, situate near the river Brusch and border of Alsace, 15 leagues south-east of Nancy, and eight south-west of Strasburg.

Blamont, a little town on the Vezouze, five leagues eastward of Luneville.

Chateau-Salins, a small town, noted only for its salt springs, on the Seille, five leagues north-east of Nancy. It contains 2110 inhabitants.

Dieuze, a small old town, containing four convents, and two hospitals, in a plain watered by the Seille, nine leagues north-east of Nancy, near lake Tarquinpol. This place is famous for its salt springs.

Phaltzbourg, a little town with the title of a principality, on an eminence at the foot of the Vosge Mountains, eleven leagues north-west of Strasbourg. This town, which belonged to the Dukes of Lorraine, was ceded

ceded to France by the treaty of Vincennes A. D. 1661, by that of Ryswick in 1697, and finally by that of Paris in 1718.

Lixheim, in the district of Phaltzbourg, *Fenestrange*, and *Sarverden* on the Saar two leagues from Fenestrange, are places of little note.

Bitche, a small town situate at the foot of the Vosges, in a bason 117 toises above the level of Paris, and environed by hills, on the river Schwolle, fourteen leagues north north-west of Strasbourg. Its fortifications, constructed by Vauban, were razed at the peace of Ryswick. It was again fortified in 1740. Its works are cut in the rock, and its magazines are bomb proof. It contains 2,200 inhabitants.

Sarguemines, in German Guemunde, a small and formerly fortified town, on the left hand of the Saare, five leagues north-west of Bitche, and three south of Saarbruck, containing upwards of 2000 inhabitants.

Hombourg, an old town divided into upper and lower, the one at the foot and the other on the summit of an eminence, bathed by the Roselle, four leagues west of Sarguemines.

Fauquemont, or Valckenberg, a small town, containing two churches, on the Nied, four leagues south-west of Hombourg.

Boulay, or Bolshem, a place of little note, on a rivulet half a league from the Nied, eight leagues west of Sarguemines, and five south south-west of Sarlouis, containing 2,400 inhabitants.

Nomeny, a little town and marquisate, on a declivity bathed by the Seille, four leagues north of Nancy, and one and a half east of Pont-a-Musson, containing 1,100 inhabitants.

2. *Barrois*, or dutchy of Bar, so called from the castle of Bar, built by Frederic I. A. D. 964, lies to the westward of Lorraine. Thirty-two leagues from north to south, and sixteen in breadth, it is divided into ten bailiages, diversified with hills, vallies, and plains, yielding wood, grain, wine, and pastures.

Charles the Bald dying A. D. 1430, without heirs male, his daughter Isabella married Renat of Anjou, titular King of Naples and Sicily, in whose time the dutchy of Bar having been conferred upon him by Cardinal Louis last duke of that country, it was united to Lorraine, and since that period has shared the same fate.

Towns, &c.—*La Marche* is an inconsiderable town, and the seat of a college, seventeen leagues south south-west of Nancy, between the sources of the Meuse and the Saone.

Bourmont, a town containing one parish church, two convents, &c. on a steep eminence, fifteen leagues south-west of Nancy, and four south-west of Neufchateau.

Commerci, a town containing two churches, two convents, an hospital, and 3418 inhabitants, with a castle embellished by King Stanislaus, on the Meuse, six leagues east of Bar-le-duc, and nine west of Nancy.

Bar-le-duc, the capital of the dutchy, consisting of an upper and lower town, with suburbs, containing one parish church, one priory, seven convents, one hospital, and 6000 inhabitants, on the Ornain, 15 leagues westward of Nancy. The upper town extends like an amphitheatre on an eminence, where stands the ducal palace. The walls of this town were demolished by Louis XIV. Its manufactures are cloth, stockings, bone-lace, sweatmeats, &c.

Ligny, Ligncium, Liniacum, a town containing several convents, in a valley watered by the Ornain, 14 leagues west of Nancy, and three south-east of Bar-le-duc. It was formerly walled and defended by a castle.

St Mihel, a little town, containing a church, a Benedictine abbey, six convents, and 5022 inhabitants, on the Meuse, in a valley environed by hills, on one of which stood a castle, eight leagues north-east of Bar-le-duc, and twelve north-west of Nancy.

Pont-a-Mousson, a considerable town, by Charles IV. raised to an imperial city, containing two parish churches, one abbey, nine convents, one hospital, five leagues north north-west of Nancy. Situate in a valley,

ley, it is divided into two parts by the Moselle. Its university, founded A. D. 1573, was transferred to Nancy in 1768.

Thiaucourt, situate on a small river, eight leagues north-west of Nancy, and three west of Pont-a-Mousson.

Etain, a little town environed by an old wall, on the Orne, between the Meuse and the Moselle, five leagues north-east of Verdun.

Briey, a small town near the rivulet Mancy, in a district of the same name, 14 leagues northward of Nancy, and four north-west of Metz.

Longwy, or Lonwio, Longus Vicus, divided into the old and new town, six leagues south-west of Luxembourg, 22 north north-west of Nancy, nine north-west of Thionville, and 67 north-east of Paris. The new town, situate on an eminence, was built by Louis XIV. and fortified.

Villers-la-montagne, an inconsiderable place, two leagues south-east of Longwy, near the forest of Selomont, in which are vestiges of a town consecrated to the sun.

Clermont, a little mean town in Argonne, on the river Aire, 20 leagues north-west of Nancy. Here a council was held A. D. 1095. The adjacent country is volcanic.

3. In the government of *Metz* are the following places, viz.

Metz, the capital, formerly a free imperial city, the seat of many councils, and about two centuries ago three times larger than at present, is a considerable fortified trading town and bishop's see, containing a cathedral, 16 parish churches, six abbies, 19 convents, and 32,099 inhabitants, partly on an eminence and partly in a bottom, at the conflux of the Seille and the Moselle, 10 leagues north of Nancy and 12 south of Luxembourg. It is defended by a citadel. An academy of sciences and arts was established here A. D. 1760. Its manufactures are gauzes, sweetmeats, liqueurs, artificial flowers, &c. Near it are the remains of an aqueduct.

Thionville, Theodonis Villa, a little town of 5,014 inhabitants, advantageously situate, and fortified by Vauban, on the left bank of the Moselle, six leagues north of Metz. It was taken by the French in the years 1558 and 1643; and the territory in which it lies was ceded to them by the peace of the Pyrenees A. D. 1659.

Damvilliers, anciently a residence of the kings of Austrasia, now a little town on an eminence, in a marshy district, 12 leagues south-west of Luxembourg. It was fortified by Charles V. A. D. 1528; but its fortifications were demolished by Louis XIV. in 1673. In its neighbourhood, at a place called Escurey, Dagobert II. was assassinated A. D. 715.

Montmedy, a little fortified town, divided into upper and lower, 15 leagues north-west of Metz, at the confluence of the Chiers, the Othain and the Orne, whose united streams run north-west, and fall into the Meuse above Sedan. It contains 1,889 inhabitants.

Buillon, Bullonium, a small fortified town and the capital of a dutchy, three leagues north-west of Sedan. The town and castle are almost environed by the Semoy. The isthmus of the peninsule is a ridge of steep rocks, on one of which the castle stands. The town is surrounded by a wall flanked with bastions; but its original fortifications were demolished when it was taken by Charles V. in 1521.

Saar Louis, a regularly built and well fortified town, whose foundations were laid by Louis XIV. A. D. 1680, on the isthmus of a peninsule formed by the Saar, three leagues from Saarbruck, 10 east of Theonville, 12 north-east of Metz. It contains one parish church, two convents, and an hospital. Its fortifications are a regular hexagon. By the peace of Ryswick, A. D. 1718, France remained in possession of this town and its district.

4. *Verdunois*, a territory extending along the Meuse, abounds in small towns and villages. At the peace of Munster, A. D. 1648, the empire yielded

yielded to France the sovereignty of the bishopric of Verdun, the city, and its district.

Verdun, Verodunum, the capital, and formerly a bishop's see and an imperial city, divided into the Upper, Lower, and New Town, containing a cathedral on an eminence, one collegiate and nine parish churches, six abbies, two hospitals, and 10,000 inhabitants, 19 leagues north-west of Nancy, and 64 eastward of Paris, situate on the Meuse. Well fortified and defended by a citadel, it is a place of importance for the protection of Champagne. The cathedral is remarkable for its length, its two choirs, and its four steeples.

Hatton-Chatel, a considerable fortress in the middle age, is a burgh and marquisate, on an eminence, six leagues from Verdun, between the Meuse and the Moselle.

5. *Toulois*, Tulensis Ager, is a territory of small extent, the sovereignty of which was ceded to France A. D. 1648.

Toul, Tullum Leucorum, Tullo, the capital, formerly a bishop's see, and an imperial city, is a regularly fortified town, with two suburbs, containing a fine cathedral, one collegiate and four parish churches, three abbies, two priories, seven convents, two hospitals, and 6,900 inhabitants, two leagues west of Nancy. It is the birth-place of Nicolas Abraham, Benoit Picard, and other learned men. The bishop's see, the largest in France, contained 1700 parishes and 26 abbies. This city stands in a fertile valley, watered by the Moselle. Its most noted manufactures are delft-ware, spinning of cotton, &c. The two principal market towns belonging to this district are Luverdon and Vicheri. The hills to the northward are almost barren, and the vallies of a gravelly soil; to the south the hills are covered with wood, and the vales are fruitful. The environs of Toul produce good wine.

5. ALSACE.

Alsace, a populous province, is bounded on the north by the Palatinate, on the east by the Rhine, on the south by Switzerland, and on the west by the Vosge Mountains; lying between 47° 25′ and 49° 10′ N. latitude, and between 6° 45′ and 8° 10′ E. longitude; being 45 leagues from north to south, and 12—18 in breadth; containing 72 towns, nine fortresses, 750 parishes, upwards of 1000 villages and hamlets, and 400,000 inhabitants.

There are several rivers in this province, viz. the Ill, Thur, Fecht, Scher, Andlau, Ergers, Brusch, Zorn, Moller, Lauter, &c. most of which descend from the Vosge Mountains, and run eastward to the Rhine.

Alsace is diversified with hills, vallies, and plains. The mountains on the confines of Lorraine are lofty and generally covered with forests of birch, fir, and oak; these on the borders of Switzerland are likewise wooded, but of less elevation. The level part of the country abounds in grain, wine, flax, tobacco, and fruits. The tract lying between the rivers, Ill, Haart, and Rhine, is of an inferior quality, and frequently inundated. In Upper Alsace are mines of silver, copper, lead, and iron. At Sultzbach, near Munster, there is a mineral spring resorted to by persons afflicted with the palsy and gravel.

This country was a province of the German Empire from the year 869 to the peace of Munster A. D. 1648, when most part of it was ceded to France. In the following war the French took possession of the 10 imperial cities in Alsace; and at the peace of Ryswick, A. D. 1697, the Emperor yielded to France the entire sovereignty of Strasburg and all its dependencies on the left hand of the Rhine.

Into three districts this province is divided, Upper and Lower Alsace, and Pagus Meridionalis, or Sundgau.

Lower

Lower Alsace, which extends from the northern boundary to Schlestat, contains the following places of note.

Strasburg, in the 6th century called Strateburgus, the capital, a bishop's see, and formerly a free imperial city, is a large, indifferently built, fortified town, 2200 toises long and 1200 in its greatest breadth; containing six gates, 200 streets, 5500 houses, and upwards of 45,000 inhabitants; situate in the middle of a plain, at the junction of the Ill and Breusch, above a mile from the bank of the Rhine; 30 leagues eastward of Nancy, and 102 east of Paris. It is the birth-place of several learned men, the seat of a famous university, and of a royal society, founded A. D. 1752. The streets, in general, are narrow and irregular, two only excepted. The cathedral is a large Gothic edifice, whose foundation is laid in water and a clayey soil. Its tower is of a pyramidal figure, 445 French feet in height, and the clock is an admirable piece of mechanism. The citadel is a regular fortress constructed by Vauban, A. D. 1682. In the year 1741, Cardinal Rohan built an elegant episcopal palace. The fertile and agreeable environs of this city may be inundated.

Erstein, anciently fortified, and a royal residence, is now a considerable market town, on the Ill, four leagues south of the capital.

Benfeld, a small town of 1000 inhabitants, on the Ill, a few miles above Erstein. Its castle and fortifications are demolished.

Rhinau, formerly a large town, but more than one half of it has been carried away by the Rhine.

Haguenau, formerly a well fortified imperial city, at present an indifferently built town environed by a rampart and moat, containing about 3000 inhabitants who have little trade. It is situate on the Motter five leagues north of Strasburg. In its district are many villages.

Dachstein, a small dismantled town, with a castle in ruins, on the Brusch, a league from Molsheim, and three leagues west of the capital.

Fort

Fort Louis, a small town and regular fort, with four large bastions and the same number of half-moons, constructed by Vauban, A. D. 1689, in an island of the Rhine, eight leagues below Strasburgh. At the peace of Baden France retained this fortress.

The bailiages of Lauterburg, Guttenburg, Beinheim, Hatten, Woerd, Hutzenhausen, Fleckenstein, and Hohenburg, contain nothing ramarkable.

Weissembourg, Sebusium, a small town of 4,097 inhabitants, six leagues north of Haguenau, on the Lauter a river that runs south-east and falls into the Rhine below Lauterbourg. Its fortifications were demolished by Louis XIV. A. D. 1673. In its neighbourhood the French defeated the Austrians A. D. 1744.

Landau, an ancient, tolerably built town, fortified by Vauban, containing 3000 inhabitants, at the northern extremity of the province, on the Queich, environed by fertile plains and eminences, six leagues south-west of Spires, 15 north north-east of Strasbourg, and 108 north-east of Paris. This place, by the treaty of Baden, was ceded to France A. D. 1714.

The following market towns are inconsiderable, viz. *Werd*, on the Soor, three leagues north of Haguenau; *Pfaffenhofen* on the Motter, several leagues south-west of Werd; *Ingwiller*, above Pfaffenhofen; *Lutzelstein*, among the mountains on the border of Lorraine. *Neuviller*, whose abbey is secularized, at the foot of a hill, between Buswiller and the western frontier; *Hochfelden*, on the Soor, below Zaberen; *Dachsburg*, or Dachsperg, above Zaberen, on the same river; *Marmoutier*, or Maur-Munster, with a Benedictine abbey, a league from Zaberen; *Buswiller*, a considerable, manufacturing market town, on the Motter, defended by the castle of Trefenthal flanked with four towers, seven leagues north north-west of the capital; *Wangen*, *Molsheim*, *Mutzig*, *Rosheim*, *Bersch*, *Bar*, *and Andlau* are places of little note, west and south-west of the capital, in the interior part of the province; *Zabereu*,

or

or Saverne, Tabernæ, Alsatiæ, a small town containing a collegiate church, two convents, and an hospital, environed by an old wall, at the foot of the mountains, seven leagues west north-west of Strasbourg.

In *Upper Alsace* are the following places :

Schlestat, formerly an imperial, at present a considerable and well fortified town, containing 7000 inhabitants, in a marshy tract, watered by the Ill, nine leagues south south-west of Strasbourg. In 1673, Louis XIV. ordered this place to be dismantled; but in 1679 its fortifications were repaired.

Colmar, Columbaria, a considerable manufacturing town, environed by an old wall flanked with towers, containing 13,300 inhabitants, who carry on some trade in grain and wine. It is situate in a fruitful and agreeable territory, watered by the Fecht and Lauch, 14 leagues south of the capital. Its fortifications were demolished by Louis XIV. in 1673.

Kaiserberg, a small town built by Frederick II. on the Weiss, at the foot of a hill whence the Rhine is visible, a few miles north-west of Colmar. This place suffered much in the wars 1652 and 1674. Its environs produce excellent wine ; containing 2,300 inhabitants.

Turkheim, a little town between Colmar and Kaiserberg, at the entrance into the valley of St Gregory. In its neighbourhood, noted for good wine, Marshal Turenne defeated the Imperialists, A. D. 1675.

Munster, a mean town with a rich Benedictine abbey, in the valley of St Gregory, a few leagues west of Colmar; containing 2,300 inhabitants.

New Brisac, a regularly built town, fortified by Vauban, on the left hand of the Rhine, three leagues south-east of Colmar. At the distance of 1000 paces from it, on an arm of the Rhine, is Fort Motier.

Guemar, a small town founded by Rodolph of Hapsburg, a few miles north of Colmar.

Ribeauviller, a town divided into Upper and Lower, where all the musicians in Upper Alsace annually meet, few miles west of Guemar.

Bergheim, an inconsiderable old town, and formerly an asylum to assassins, who, it is said, remained here in safety an hundred years and one day. Between this place, Guemar, and Colmar, there is an extensive plain.

Rouffac, a small town, and anciently a residence of several princes of the Merovingian race, three leagues southward of Colmar.

Gebweiller, a little town on the river Lauch, near Mount Sering, which yields a delicious wine.

Ensisheim, corruptly named Ensheim and Enzen, a tolerably built, thinly inhabited town, in a fine plain, four leagues north of Mulhausen, and five south of Colmar. In the parish church is a stone suspended, weighing 280 pounds, which, it is pretended, fell from heaven.

Sultz, a market town near Gebweiller, in a fruitful plain, two leagues south south-west of Rouffac. The country south-west along the hills abounds in wood and excellent pastures.

St Amarin, or Dammarin, a town containing two churches, on the left hand of the Thur, near the south-west extremity of Alsace. In its vicinity are the ruins of the castle of Friederichsburgh.

Sundgau, or Suntgaw, Pagus Meridionalis, or Sugitensis, is a district lying south of Upper Alsace, 12 leagues in length and 10 in breadth.

Thann, Pinetum, a town three leagues west of Mulhausen, in the north-west corner of the district, at the entrance into the pleasant valley of Amarin. The church is remarkable for the height of its tower. Between this place and Sernay lies the plain of Ochsenfeld. A strong wine is produced in that neighbourhood.

Landser, Decus Regionis, a small town, three leagues north north-west of Huningen, in an agreeable tract, lying between Basil, Mulhausen, and the Rhine, and including the forest of Hart. In the lower bailliage of Landser, is situate Habsheim, formerly a place of strength, burnt by the Swiss, A. D. 1468.

Befort,

Befort, the capital of Sundgau, a town fortified by Vauban, containing 4,400 inhabitants, situate in a tract indifferently fertile, near the south-west boundary of the province, four leagues north of Montbelliard. Its castle, of the same name, stands on an eminence, from which there is an extensive prospect. In that neighbourhood are good iron mines. From Befort there is a commodious passage into Franche-Comté.

Altkirtch, so called from a castle on an eminence, now demolished, a little town, near the centre of the district, on the Ill, eleven leagues south of Colmar, and five north-west of Basil.

Mulhausen, a considerable, well built, populous town, containing 6,000 inhabitants, in a fertile and agreeable island formed by the Ill and other two small streams, six leagues north north-west of Basil. It was formerly an imperial town, but in 1506 it entered into the union of the Swiss cantons, and in 1532 embraced the protestant religion. It was united to France in the 6th year of the republic.

Huningue, a small but strong town, fortified by Vauban, on the Rhine, near Basil.

Landscroon, a fort near Basil, in a lordship of the same name, on an eminence.

Several highways have been formed across Mount Vosges, to facilitate the communication between Alsace and Lorraine. Of these the most considerable are, Masevaux, Giromagny, Zaberen, Wissemberg, and Bitsch.

6. FRANCHE-COMTÉ.

Franche-Comté, anciently called Upper Burgundy, is bounded on the north by Lorraine, on the east by Switzerland and Savoy, on the south and west by Burgundy and Champagne; lying between 46° 15′ and 47° 55′ north latitude, and between 5° 20′ and 6° 55′ east longitude; being

39 leagues from north to south, and 20–26 in breadth; containing upwards of 700,000 inhabitants. Of an oval form, almost one half of it is level, and the other half uneven and hilly. The soil consists of red ferruginous loams, schistus, gravel, and lime-stone; yielding grain, wine, fruits, and excellent pastures. There are mines of iron, copper, and lead.

The most considerable rivers are,—the *Saone*, which originates in Mount Vosges, near the confines of Lorraine, and bathes Gray, Auxonne, Verdun, Chalons, Maçon, and Trevoux, in its progress south south-west to Lyons, where it falls into the Rhone. The *Doubs*, or Doux, that descends from Mont Jura westward of lake Neufchatel, and flows north north-west along the border of Switzerland, till it approaches the south extremity of Alsace: changing the direction of its course, it proceeds south-west through the middle of the province, and loses itself in the Saone at Verdun. The course of the Oignon is nearly parallel to that of the Doubs, and its termination is in the Saone, below Gray.

When this province was separated from Burgundy, it received its modern appellation; and by the treaty of Nimeguen, A. D. 1678, was annexed to France. It was divided into four large districts, viz. Besançon, Dole, Amont, and Aval; which now compose three departments, viz. Saone, Doubs, and Jura.

Cities, &c.—*Besançon*, Vesontio, the capital, is an ancient, well built, fortified city, divided into two parts, called the high and low town, on a peninsule bathed by the Doubs. It is the see of an archbishop, and, before the late revolution, was the seat of a parliament, an university, and an academy of arts and sciences founded A. D. 1752. It contained eight parish churches, many religious houses, and 30,000 inhabitants. It is 18 leagues east of Dijon, 20 north of Geneva, and 78 south-east of Paris. Louis XIV. rendered this place an important fortification, and strengthened it by the addition of two citadels. There are some remains

of

of a Roman amphitheatre, 120 feet in diameter, of several temples, and of a triumphal arch constructed by Aurelian A. D. 274. It is the birth place of Millot, Blavet, Dunot, Mariet, and other eminent men. The country northward to Orechamp is bold and rocky, with fine woods, but not agreeable nor well cultivated. Five leagues from the city there is a deep cavern in a mountain, of which some absurd and fabulous narratives have been published.

Dole, formerly the capital of the province, is a tolerably built, and formerly a well fortified town containing 8235 inhabitants, pleasantly situate on the Doubs, in a fertile cognominal district, styled Val d'Amours, near the south west extremity of the province. Louis XIV. A. D. 1688, caused the fortifications to be demolished. It was afterwards fortified by the Spaniards, and dismantled a second time by the French. Thence to Auxonne there is a flat meadow and good pasture, and onward to Dijon a fine country without wood.

Quingey, or Quince, a mean town, and the birth-place of Pope Calixtus II. on the Louve, four leagues south-west of Besançon, between Dole and Ornans. A league from the town are the noted grottos of Oselles, containing remarkable petrifications.

Ornans, a small town three leagues south-east of the capital, at the foot of the hills. In its neighbourhood are curious caverns, resembling those of Quingey. The country north-west is full of rocks.

Baume, Balma, a little town in the district of Amont, or Gray, on the Doubs, above Besançon, almost entirely destroyed in the wars.

Montbelliard, at the foot of a rock, on which stood a strong castle dismantled A. D. 1674, by Louis XIV. on the Alain, near its influx into the Doubs, 12 leagues west of Basil, and 15 north-east of Besançon.

Blamont, on the right hand of the Doubs, south of Montbelliard, near the border of Switzerland.

Monbozon and Montjustin are little towns north-east of Besançon, near the Oignon.

Vesoul,

Vesoul, a town formerly walled, containing 5417 inhabitants, in a fertile tract at the foot of an eminence, two leagues from the Saone and nine north of the capital. It was ceded to France in 1679. Near it is a mineral spring, and the wine of its district is of a good quality.

Gray, Gradicum, a small, populous, trading town, containing 5009 inhabitants, on the Saone, 10 leagues north-west of Besançon. The fortifications of this place were demolished by Louis XIV. in 1668. Grain, iron, and wine, are the principal articles of trade.

Jussey, an inconsiderable town environed by fruitful fields among the hills, 15 leagues north north-east of the capital, on the Amance, a little above its influx into the Saone.

Luxeuil, Luxovium, a small town, containing 3000 inhabitants, famous for a Benedictine abbey founded by St Columban in 602, on the Breuchin, near the foot of Mount Vosges. It is also noted for mineral-waters and hot-baths.

Faucogney, on the Breuchin, a few leagues east of Luxeuil, near the mountains, in the north-east corner of the province.

Salins, a town containing four parish churches, several religious houses, and about 8000 inhabitants, in the district of Aval, partly on an acclivity, and partly on the bank of the Furieuse, near the source of this stream, in a valley between two hills, seven leagues south of Besançon. Its noted salt spring yields a considerable revenue. In its neighbourhood are marshes, quarries of marble, jasper, &c.

Arbois, a small but populous town, a few miles south-west of Salins, in a fertile tract watered by the Cuisance, and yielding excellent wine.

Pontarlier, Pons Aelii, Pons-Arleti, Pons Elaverii, Pontabia, a town containing 3880 inhabitants, on the Doubs, nine leagues south south-east of Besançon, near Mount Jura. From this place there is a commodious passage to Switzerland, defended by a castle on a steep rock called Chateau de Joux. Its manufactures are paper-mills, delft-ware, &c.

Poligny,

Poligny, Polemniacum, a town containing 5293 inhabitants, 10 leagues south south-west of the capital, in a pleasant and fruitful territory, on the rivulet Orine that falls into the Doubs. This place was formerly situate on a neighbouring rock, round the noted castle of Grimon. In its vicinity several monuments of antiquity have been discovered.

Lons-le-Saulnier, a considerable town on the Solvan, six leagues south south-west of Poligny. Near it there is a mine of fossil coal.

Orgelet, a little town pleasantly situate near the source of the Valouse, 18 leagues south south-west of the capital.

St Claude, or *St Oyen de Joux*, a town containing 3579 inhabitants, on the site of a celebrated abbey, among barren rocks, on the Lison, a small stream, 20 leagues south of Besançon, and nine south-south-east of Lons-le-Saulvier. This town was demolished in the seventh year of the French republic.

7. BOURGOGNE.

Bourgogne, or *Burgundy*, so called from the Burgundi, who settled here in the beginning of the fifth century, is bounded on the north by Champagne and Lorraine, on the east by Franche Comté and Savoy, on the south by Lyonnois, on the west by Bourbonnois, Nivernois, and Orleanois; lying between 46° 10′ and 47° 55′ N. latitude, and between 3° 20′ and 6° 10′ E. longitude; being 60 leagues from north to south, and 30 in breadth.

This country is agreeably diversified with hills and plains. The former contain mines of various metals, quarries of marble and stone, strata of shells, and marine petrifactions: the latter abound in grain, excellent wine, and pastures. In many districts are mineral springs. The grottos of Arcy, a large village in Auxerrois, merit the notice of a traveller. About 500 paces from that village, near the river Cure, there is a narrow

narrow entrance into a cavity 300 toises in depth, covered with crystallizations.

The most considerable rivers in this province are the following, viz. the Seine, whose source is in the district of Chatillon, and its direction north-west to Champagne. The Armançon and Serain, which originate in Arnay-le-duc, run north-west parallel to the Seine, and fall into the Yonne that passes through the north-west extremity of the country. The Saone, augmented by the Ouche and the Till below Axonne, and by the Doux and Dehune at Verdun. The Arroux, which originates in the small lake of Mouillon, a mile from Povilli in Auxois, and runs south-west to the Loire. The Bourbince that traverses Charolois, and loses itself in the Arroux. The Rhone, separating Bresse from Savoy. The Loire, which forms the common boundary of Bourgogne and Bourbonnois.

Bourgogne is divided longitudinally by a ridge of hills that extends from Dijon to Lyon. The eastern part is a spacious and fertile plain bounded by the mountains of Franche-Comté and Savoy; the other division is dry, hilly, and indifferently cultivated. This province is also divided into eight districts, viz. four to the north and four to the south. The northern districts are Pays de la Montagne, Auxerrois, Auxais, Dijonnais; the southern are Autunais, Chalonnais, Charolais, Maconnais; Dijonnais contains the bailliages of Dijon, Nuits, Beaune, St Jean-de-Lone, and Auxonne; in Pays de la Montagne, there is one bailliage, viz. Chatillon; Autunais comprehends the bailliages of Autun, Mont-Cenis, Semur en Briennais, and Bourbon-Lancy; Auxois includes those of Semur, Avalon, Arnay-le-duc, and Saulieu: containing 63 boroughs, 93 market towns, 1875 parishes, 800 hamlets, and 1,000,000 inhabitants.

Geographers commonly divide this province into the dutchy of the same name, Bresse, Bugey, Val Romey, and Gex.

The

The dutchy of *Bourgogne* contains the following places:

Dijon, the capital and formerly a bishop's see, an ancient, considerable, well built, walled city, of a square form, defended by a castle; containing seven parish churches, four abbies, three hospitals, several convents and religious houses, an university, an academy of sciences established A. D. 1725, and 20,000 inhabitants; situate at the foot of a hill, in a fertile and agreeable plain, watered by the Ouche and Suzon, two small streams that run south-east to the Saone; 35 leagues north of Lyon, 25 south of Langres, 60 south-east of Paris. Its streets are broad, straight, and well paved. This city is famous for being the birth-place of many learned men, viz. Bossuet, Crebillon, Piron, Saumaise, Rameau, Bouhier, Menestrier, Bannelier, Oudin, Bernard, Abbe Clement, Quentin, Jean Dubois, Marcenay, Archer, Diderot, &c. The manufactures of Dijon are muslins, cotton stuffs, coarse cloth, wax candles, &c. In a neighbouring monastery are magnificent tombs of the Dukes of Burgundy.

Auxonne, the capital of an earldom, an ancient fortified town containing 6000 inhabitants, who carry on a considerable trade in wine; pleasantly situate on the Saone, six leagues south-east of Dijon, near the border of Franche-Comté. The castle was built by Louis XI. Charles VIII. and Louis XII. and the town was fortified by Vauban A. D. 1673.

St Jean de Laone, Latona, a small fortified town, on the Saone below Auxonne; famous for its treaties, and for the vigorous siege it withstood A. D. 1636, in acknowledgement of which Louis XIII. exempted it for ever from poll-tax.

Citeaux, the principal abbey of the Cistercian order, founded by Otho I. Duke of Burgundy A. D. 1098, containing 80 religious beside domestics, four leagues south of the capital.

Nuits, Nutium, the birth-place of Sarrasin an historian and poet, a town containing two churches, two convents, and two hospitals, at the

foot of a hill, on the brook Musain by which it has been frequently inundated, four leagues south south-west of Dijon and six east of Arnay-le-duc. Its environs yield excellent wine.

Beaune, a small neatly built town, containing 8,344 inhabitants, at the foot of a hill, in a pleasant territory, noted for its delicious wine, seven leagues south of Dijon, on the river Bourgeoise. The famous fort built here by Louis XII. was demolished by Henry IV. A. D. 1602. The wine of Beaune is esteemed.

Seurre, formerly Bellegarde, Surregium, a little town four miles in circuit including three suburbs, on the left bank of the Saone, in a fruitful territory, seven leagues south of Dijon. It contains a parish church, two convents, an hospital, and 2,500 inhabitants.

Autun, Augustodunum, an ancient indifferently built trading town, a bishop's see, and the seat of several councils, containing a cathedral, 12 parish churches, and many religious houses, 16 leagues south-west of Dijon, and 65 south-east of Paris. The traces of its walls are two leagues in circuit. The upper town is commanded by Mount Cenis. This place sustained many sieges, and was sacked by the Saracens A. D. 731. There are several Roman antiquities, viz. the ruins of three temples and an amphitheatre. About eight military roads depart from this city, which contains 9,180 inhabitants. Its manufactures are serges, tapestry, &c. The country thence to Chalons is diversified with corn fields and vineyards.

Montceny, a mean place with no trade, on an eminence between two hills, four leagues south of Autun.

Arnay-le-duc, a small town, almost in the centre of Bourgogne, near the sources of four streams, five leagues north north-east of Autun, in a territory diversified with hills and plains. A fragment of its castle remains.

Chatillon, a considerable place A. D. 1152, now a small town of 3,700 inhabitants, divided by the Seine, near the north extremity of the

the province, 12 leagues west of Langres, 16 north north-west of Dijon, and 14 south south-east of Troyes. The parliament of Dijon, in 1631, retired hither to shun the plague.

Bar-sur-Seine, Barum ad Sequanam, a small old town at the foot of a hill, seven leagues from Troyes and Chatillon. It was a considerable town when taken and burnt in 1357.

Flavigny, a small town, formerly more considerable, with a Benedictine abbey founded in the seventh century, on an eminence covered with vineyards, and bathed by the Ozerain, nine leagues north-west of Dijon. This place was reduced by the civil wars.

Montbard, the birth-place of M. de Buffon, a little walled town, partly on a declivity, and partly on a plain, near the influx of the Braine into the Armançon, three leagues from Semur, and 14 north-west of Dijon. It is defended by a castle.

Semur-en-Auxois, a manufacturing walled town, containing 4295 inhabitants, divided into three parts, viz. the town, the donjon, and the castle on a rock of granite bathed by the Armançon, seven leagues east of Avallon, 13 north-west of Dijon, and 54 south-east of Paris. It is the birth-place of Charles Fevret and Claude Saumaise.

Saulieu, a trading town containing 2800 inhabitants, in a fertile tract five leagues south of Semur. It was anciently a druidical residence.

Avallon, a strong place in the middle age, now a small town, on the Cousin, 20 leagues north-west of Dijon, and 10 south south-east of Auxerre. It has some trade in wine, grain, black cattle, &c.

Crevan, a trading town, near the conflux of the Cure and the Yonne, four leagues southward of Auxerre. In its vicinity a battle was fought A. D. 1423, and the remains of a Roman highway may be traced.

Auxerre, Autussiodorum, an ancient town of a circular form, the seat of two councils, and a bishop's see, containing a fine cathedral, an academy of sciences established 1749, many religious houses, and about 12000 inhabitants; pleasantly situate on a declivity, and in a valley watered by

the Yonne, near the north-west extremity of the province, ten leagues south south-east of Sens, and 37 south-east of Paris. Here is a considerable manufacture of mirrors.

Tonnerre, a town consisting of 4000 inhabitants, on the Armançon, seven leagues eastward of Auxerre. It has a considerable trade in red wine.

Bourbon L'Ancy, a town containing three parishes, three convents, two hospitals, and about 2500 inhabitants, with a castle on a rock, half a league from the Loire, and 28 leagues south-west of Dijon. This place is noted for its saline, ferruginous, and sulphureous baths known to the Romans.

Charolles, a little town with an old castle on an eminence, at the junction of two small streams, in a territory environed by hills, 36 leagues south south-west of Dijon, and 10 south-east of Bourbon L'Ancy. It contains 2470 inhabitants.

Semur-en-Briennois, an inconsiderable town on the right hand of the Loire, in a fertile tract, five leagues south-west of Charolles, eight from Roane, and 70 from Paris.

Maçon, an ancient considerable town in the form of a crescent, formerly a bishop's see, and the seat of several councils, containing many religious houses, and 5800 inhabitants, on a declivity near the Saone, four leagues east of Cluny, 12 from Chalon on the Saone, 13 north of Lyon, and 78 south south-east of Paris. Its streets are narrow, and its fortifications imperfect; but its trade in excellent wine is not contemptible.

Clugny, or Cluni, Cluniacum, a town with a celebrated Benedictine abbey, whose church is 600 feet long, and 120 broad, in the form of a cross, on the river Grosne, four leagues north-west of Maçon, and 16 north north-west of Lyon. The abbey was founded A. D. 910, by William Duke of Aquitaine. The population of Cluni exceeds 3000.

Turnus,

Tournus, an old town of an oblong form, the birth-place of Jean Baptiste Greuze and of Jean Maignon, in a pleasant and fertile territory, on the right bank of the Saone, five leagues south south-west of Chalon, seven north of Maçon, 18 south south-west of Dijon, and 82 from Paris. Its castle was converted into an abbey, secularised A. D. 1623. Tournus contains upwards of 4000 inhabitants.

Chalon-sur-Saone, an ancient, considerable, well built, trading, walled town, defended by a citadel, containing several churches and religious houses, and about 10,400 inhabitants in a fertile and delightful plain watered by the Saone, 13 leagues south of Dijon, 22 north of Lyon, and 75 south-east of Paris. This place is a staple of iron for Lyon, and of wine for exportation. It has a suburb called St Laurence. A mile from the town there is a monastery noted for the tomb of Abelard, who died in 1142; but his ashes were removed by Heloise to Paraclet in Champagne. The bishop's diocese included 229 parishes. There are some Roman antiquities.

Verdun, Viridunum Castrum, a small trading town, defended by a castle, at the confluence of the Doux and Saone, three leagues north-east of Chalon. This town has a large suburb called St Jean, and is noted for an annual fair, October 29th, that continues 15 days, and for its liqueurs.

Bresse, is a district in Bourgogne, bounded on the north by Bourgogne and Franche-Comté, on the east by Savoy, on the south by Dauphiné, on the west by the Saone, in 46° N. latitude; including Bresse properly so called, Gex, Bugey, and Valromey; diversified with hills, plains, woods, and pastures. In this miserable district, the ponds amount to 250,000 acres. Formerly subject to the Dukes of Savoy, it was ceded to France A. D. 1601, in lieu of the Marquisate of Saluzzo.

Burg, the capital, a town containing 7000 inhabitants, the birth-place of Vaugelas, and of M. de la Lande a celebrated astronomer, in a plain watered by the Ressousse, nine leagues north-east of Trevoux, and 93 south-east of Paris. Its environs are marshy, but fruitful. A convent

of

of Augustines, five miles from Bourg, is noted for the fine Gothic architecture of its church.

Pont de Vaux, an inconsiderable place, in a fertile tract three leagues north north-east of Maçon, on the Ressousse a small stream that falls into the Saone.

Pont de Vesle, a little town, a few miles south-east of Maçon, near the conflux of the Vesle and the Saone.

Montluel, Mons Lupelli, a town above Maçon, at the foot of a hill from whose summit there is an extensive prospect.

Bauge, formerly the capital of Bresse, 1260 paces in circuit, on an eminence a league from Maçon. It consists of one parish, and its environs are fertile.

Dombes, anciently a portion of the kingdom of Burgundy, towards the beginning of the eleventh century an independent lordship, and by Louis XIV. declared a sovereign principality, is a fertile territory, about nine leagues square, on the west bounded by the Saone, on the east by Bresse, and the south by the Rhone.

Trevoux, the capital, Tivurtium, formerly a more considerable town than at present, on an eminence bathed by the Saone, five leagues north of Lyon, and 85 south-east of Paris. The memoirs composed in Paris, and printed here, are well known. It contains 2530 inhabitants.

Beaueregard, anciently the capital, and defended by a citadel, but destroyed by the Savoyards A. D. 1377, now a mean place on the Saone above Trevoux. The forest of the same name is 15 leagues in circuit.

Montmerle and Toissey, above Beaueregard, are places of little note.

Trivier, an inconsiderable place near a lake, seven leagues north of Lyon.

Chalamont, on an eminence in the vicinity of two lakes, six leagues east of Trevoux, and seven north-east of Lyon.

Bugey is a district 16 leagues in length, and 10 in breadth, bounded on the south and east by the Rhone, and on the west separated from Bresse by

by the D'Ain. It yields some grain and wine, and abundance of pastures. In several places Roman inscriptions and medals have been discovered.

Belley, Belica, the capital, a small town, and formerly a bishop's see, situate among fertile eminences, about a league from the Rhone, and 15 leagues east of Lyon, containing 3727 inhabitants.

Ambronai, a town consisting of one street, with a rich Benedictine abbey founded A. D. 800, near the D'Ain, eight leagues north-west of Belley.

St Rambert de Joux, so called from the Benedictine abbey of St Rambert, a small town in a bottom between two hills, on the Arbarine, six leagues north-west of Belley.

Seissel, the capital of Valromey, on the Rhone, five leagues north north-east of Belley. By the treaty of Turin A. D. 1760, the middle of the Rhone divides France from Savoy, so that the eastern part of the town belongs to Savoy. The river being navigable, this place carries on a considerable trade in salt.

Nantua, a little town, with a Benedictine priory and other religious houses, pleasantly situate between two hills, at the extremity of a lake, nine leagues north of Belley, equidistant nearly from the Rhone and the D'Ain; containing 2791 inhabitants.

Chezery, the principal place in a valley of the same name, on the border of Franche-Comté.

The territory of *Gex* extends from Fort d'Ecluse to the village of Crossay, and from the town of Gex to Geneva, being seven leagues in length and three in breadth, watered by the Rhone and other streams: it is bounded on the west by Mount Jura, which yields excellent pastures. The principal articles of trade are cheese, wine, and coal.

Gex, a small town, containing one parish-church and several religious houses, at the foot of Mount St Claude, 25 leagues north-east of Lyon, and three north of Geneva.

Le Fort de l'Ecluse commands the entrance into Bugey and Bresse. It is hewn out of a rock, in a narrow pass between Mount Jura and the Rhone, five leagues below Geneva.

Ferney, a small, regular, well built town, pleasantly situate near the lake of Geneva, with an handsome seat, noted for being the residence of the celebrated Voltaire, at the intersection of two highways, the one leading from Switzerland to Lyon, and the other from Franche-Comté to Geneva.

8. DAUPHINÉ.

Dauphiné, or the *Delphinat*, of a triangular form, is bounded on the north by the Rhone and Savoye, on the east by Piedmont, on the south by Provence, and on the west is separated from Languedoc and Lyonnois by the Rhone; lying between 44° 10′ and 45° 50′ N. latitude, and between 4° 45′ and 7° 5′ E. longitude; being 40 leagues from north to south, and 34 from west to east, containing 690,000 inhabitants.

The most noted rivers are the following, viz. the Rhone already described.

The *Durance*, that originates in Mount Genievre, flows south-west, and falls into the Rhone near Avignon.

The *Isere*, which has its source in Mount Iseran, receives the Arac, Drac, and other streams in its progress, becomes navigable at Grenoble, and loses itself in the Rhone above Valence.

The *Drome*, from a valley in the territory of Die, proceeding westward to the Rhone, with which it unites between Valence and Montelimart.

This province formerly constituted a part of the kingdom of Burgundy, and was divided into separate and independent states. Towards the commencement of the 11th century, these states united, and received their modern appellation from Count Guignes IV. who was baptised by

the name of Dauphin, a title now conferred on the eldest son of the French king.

Dauphiné, celebrated for natural curiosities, is commonly divided into Upper and Lower.

The latter is abundantly fertile, yielding grain, wine, and olives; but two-thirds of the former are barren and hilly. Upper Dauphiné contains the districts of Gresivaudan, Briançannais, Embrunais, Gapençais, Royannez, and the baronies. In the lower division are Viennais, Valentinais, Diois, and Tricastin.

In *Upper Dauphiné* are the following towns and places of note:

Grenoble, the capital, a bishop's see, the birth-place of M. de Bourchenu, Abbé de Condillac, Abbé de Mably, &c. and the scene of many cruelties in the religious wars, A. D. 1562, is an ancient, large, well built city, containing 23,500 inhabitants, in a marshy but fruitful plain, at the foot of a hill, above the conflux of the Isere and Drac; 18 leagues south-east of Lyon, 16 east south-east of Vienne, 117 south-east of Paris. It is divided by the river into two unequal parts, the largest of which is regularly built. Its manufactures are cloth, hats, gloves, &c. To the north are the ruins of a citadel, on an eminence, whence there is an agreeable prospect of the town, the banks of the Isere, and several fertile vallies. Near the northern extremity of the populous valley of Gresivauden, stands Fort de Barreaux, built A. D. 1597, by the Duke of Savoy, with a little town about a mile northward. In a rugged valley, watered by the rapid Drac, about five leagues south of Grenoble, the mineral springs of La Mothe are highly esteemed as a remedy against fluxes and all disorders of the stomach; but they are little frequented, on account of the difficult access to them.

La Grande Chartreuse, a famous Carthusian monastery, founded A. D. 1086, consisting of an excellent library, and many apartments, on an eminence environed by rugged precipices of difficult access, four leagues north-east of Grenoble. In the great hall the general chapter of the

order is annually held. The fine paintings in that hall, and those in a large gallery are admired.

Mens, a small town, nine leagues south of the capital, at some distance from the left bank of the Drac.

Tallard, an inconsiderable place, on the Durance, a few leagues south of Gap, containining 900 inhabitants.

Gap, Vapincum, the capital of a district, a decayed town at the foot of a hill, near the rivulet Benne. It was a bishop's see, subject to the archbishop of Aix; but was greatly reduced by civil, intestine, and foreign wars. In its vicinity are mineral waters.

Embrun, the seat of seven councils, was a strong town on a rock, near the right bank of the Durance, seven leagues east of Gap, 22 south-east of Grenoble, and 139 south-east of Paris. This town is said to be one of the most elevated in Europe. The archbishop's palace is an elegant building, and the cathedral is worthy of notice. The walls of the town are demolished. It contains about 3,000 inhabitants.

Chorges, a small old town, anciently the capital of the Caturiges, burnt by the Duke of Savoy A. D. 1692, four leagues west of Embrun, containing about 1,200 inhabitants.

Mont-Dauphin, a little, strong place, between Embrun and Briançon, on a steep hill, almost environed by the Durance.

Briançon, an old, tolerably built, strong town, containing 2,976 inhabitants, the capital of a small district, and one of the most important frontier towns in the kingdom, pleasantly situate at the foot of a rock, on which a castle stands, 620 toises above the level of the sea, in the middle of four vallies, bounded by rocks and hills, at the conflux of the Doire and the Ance, near the confines of Piedmont, 17 leagues south-east of Grenoble. This is one of the most frequented passages from France to Italy, by Mount Genevre, from which it is an Italian league distant. Every avenue to the town is secured by several forts.

Monestier,

Monestier, a small town famous for its hot baths, a few leagues north of Briancon, in a valley watered by the Glisane. Its inhabitants, about 2,500, carry on a considerable trade in prints and haberdashery wares.

Cities, &c.—in *Lower Dauphiné.* Vienne is a large, irregular, indifferently built city, containing 10,000 inhabitants, founded by the Allobroges, and the seat of a general council in 1311, near the north-west extremity of the province, 16 leagues west north-west of Grenoble, on the Rhone, below Lyon, covered by lofty hills. The cathedral is a fine Gothic structure. There are manufactures of iron, steel, and paper. Its environs contain mines of lead, iron, and coal. In that neighbourhood is a Roman theatre almost entire, with the remains of a triumphal arch in honour of Augustus, and other antiquities.

Pont-Beauvoisin, a small open town, divided by the rapid Guier, 14 leagues east of Vienne, near the frontier of Savoy.

Bourgoing, a considerable town with some trade in hemp, on the Bourbe, in a marshy site, six leagues east north-east of Vienne; containing 3,595 inhabitants.

Tain, formerly Tegna, a large village on the Rhone, 11 leagues below Vienne, and three north of Valence. Near this place the hermitage wine is produced. Its population does not exceed 1,300.

Romans, a tolerably built manufacturing and trading town, containing an abbey and several convents, in a plain watered by the Isere, a few leagues above its influx into the Rhone, and 10 south-west of Grenoble. It owed its origin to an abbey founded in the 9th century, and secularised in the century following. It was almost destroyed in the civil wars. It contains about 6,000 inhabitants.

St Marcellin, a small, well built town, containing 3,047 inhabitants, on an eminence near the Isere, above Romans, and seven leagues from Grenoble. It was formerly the residence of the council of Dauphiné, which was removed to Grenoble and changed into a parliament. It is

noted for excellent wine. In its vicinity lies the village of St Antoine, with an abbey.

Valence, originally a Roman colony, and, under the monarchy, the capital of Valentinois, is a tolerably buil , populous, walled town, containing 7532 inhabitants, on the left bank of the Rhone, below the influx of the Isere, 14 leagues south of Vienne. It is the seat of an university founded at Grenoble in 1339, and removed hither by Louis XI. in 1454. The cathedral and bishop's palace are handsome buildings; but the citadel is unworthy of notice. The environs are agreeable, and shaded with mulberry trees.

Livron, a mean town on an eminence bathed by the Drome, a league from the Rhone, and three leagues from Valence. Its walls are demolished.

Montelimart, a small indifferently built town, containing 5320 inhabitants, and the seat of two councils, at the confluence of the Rubion and Jabron, whose united streams two miles hence fall into the Rhone, nine leagues south of Valence, and two from Viviers. This town is in the form of a crescent, with a citadel slightly fortified on an eminence. It is a thoroughfare to Catalonia, Italy, &c. and was the first place that embraced the protestant religion in France. Its environs are agreeably diversified with gentle eminences and delightful plains.

Die, formerly the seat of a protestant university, a small town of 3000 inhabitants, and formerly a bishop's see, in a valley watered by the Drome, near the centre of a hilly district of the same name, nine leagues south-east of Valence, 12 south south-west of Grenoble, and 122 south-east of Paris. Its citadel does not exist.

St Paul trois Chateaux, Augusta Triastinorum, a small walled town, on a declivity, about a league from the Rhone, near the south-west extremity of Dauphiné, four leagues south-east of Viviers, seven south of Montelimart, 14 south of Valence, and 155 from Paris.

Nions,

Nions, a town in the barony of Montaban, six leagues eastward of St Paul trois Chateaux, in a valley watered by the river Aiguis over which is a bridge of ancient architecture. It contains upwards of 2000 inhabitants; and there are mineral springs in its neighbourhood.

Dieulefit, a small place four leagues north of Nions, in a valley on the Iabron. In that neighbourhood are three mineral springs frequented for diseases in the eyes.

Orange, Aurasia Cavarum, the seat of several councils, an ancient town and bishop's see, containing 7200 inhabitants, in a delightful plain at the foot of a hill, watered by the Argent and Eigues which fall into the Rhone, four leagues north of Avignon, 22 north-east of Montpellier, 20 north-west of Aix, 41 south of Lyon, 130 from Paris. Here are a circus, an aqueduct, and the remains of a triumphal arch. Formerly it had an university founded by the Emperor Charles IV. A. D. 1365. Its fortifications and castle were razed by Louis XIV. in 1660 and 1663.

The territory of Orange is four leagues in length, and three in breadth. In the eleventh century it was governed by Counts, and soon acquired the title of a principality. The sovereignty of it, A. D. 1598, was confirmed to the House of Nassau by the treaty of Vervins, and those of Nimuegen and Ryswick. It had been left to that house by one of the princes, who died without issue. William Henry, Prince of Orange, was Statholder of Holland in 1672, and created King of England in 1689. This principality, ceded to France in 1713, was annexed to the government of Dauphiné. It contains one city, two small towns, and several villages.

9. PROVENCE.

Provence, annexed to the crown of France A. D. 1487, is bounded on the north by Dauphiné, on the east by the Alps, on the south by the Mediterranean, and on the west by the Rhone; lying between 43° and 44°

44° 30′ N. latitude, and between 4° 20′ and 7° 10′ E. longitude; being 43 leagues in length, and 34 in breadth. The south and south-west districts are pleasant and tolerably fertile, yielding abundance of excellent fruits, but not a sufficient quantity of grain for its inhabitants. The northern parts consist of hills and vallies covered with pastures. The soil, in general, is calcareous.

The streams which water this country are inconsiderable. The Verdun, the Asse, and the Bleonne, originate in the Alps, and lose themselves in the Durance. The Sorgue rises in Venaissin, and flows westward to the Rhone. The Argens from several sources runs south-east to the gulf of Frejus. The Var descends with rapidity from Mount Camelione, and separates France from Italy. Along the coast are several capes and harbours. Provence is divided into the upper and lower countries, the former lying to the north, and the latter to the south; both containing 769,000 inhabitants.

Cities, &c. in Lower Provence.—*Aix*, the capital, and an archbishop's see, is an ancient, regular, and well built walled city, containing an university founded by Pope Alexander V. A. D. 1409, an academy of fine arts instituted in 1668, a cathedral, four parish churches, 32 convents, and 23,600 inhabitants; situate in a plain, near the small river Arc, at the foot of several eminences covered with olive-trees and vineyards; 16 leagues south-east of Avignon, 33 west of Nice, five north of Marseille, and 153 south south-east of Paris. It is the birth-place of Joseph Piton de Tournefort, Louis Thomassin, Charles Duperrier, Vanloo, &c. and has a considerable trade in wine and oil. In its suburbs is a mineral spring once famous and much frequented. The water is scarcely warm, and almost tasteless. On the day before Fête-Dieu, the procession in honour of King René is the most ludicrous scene that can be conceived.

Pertuis, a small but agreeable town, containing five convents, on an eminence bathed by the Durance, in the midst of fertile and delightful plains,

plains, four leagues north north-east of Aix, eleven north of Marseille, 150 south south-east of Paris.

Salon, a little town, and the birth-place of Adam de Crapone, on an elevated site bathed by an arm of the Durance, five leagues north-west of Aix, and ten east of Arles. In this place is the tomb of Nostradamus a pretended prophet, who was born in St Remy, and died A. D. 1566.

Martigues, called St Genes until the year 1266, a town consisting of three parts, one of which stands on an island, and the other two on peninsulæ, at the mouth of a lake called Mere de Martigues, and Etang de Berre, that has a communication with the Mediterranean, and is four leagues long, two broad, and from four to 14 fathoms in depth; six leagues south of Aix, and eight north-west of Marseille. This town was formerly reckoned a place of considerable strength, and contains about 7000 inhabitants.

Arles, anciently the capital of the kingdom of Burgundy, and the seat of many councils, an indifferently built large town, and formerly an archbishop's see, containing a cathedral, several parish churches, many convents and religious houses, and about 18,000 inhabitants, on an uneven site almost environed by a marsh, near the left bank of the Rhone, where this river divides itself into two branches, eight leagues from the sea, 15 leagues west of Aix, five south-east of Nimes, 147 south-east of Paris. An academy of belles lettres was established here in 1669. There are many remains of Roman antiquities in this city and its neighbourhood, viz. an amphitheatre, an obelisk, a Pagan burying place, an aqueduct, columns, busts, temples, &c. The amphitheatre, constructed in the time of Julius Cæsar, is of an oval form, about 400 yards in circuit, and hid among private houses. The arena is 142 by 104 yards.—The obelisk, found in a private garden A. D. 1675, is 52 feet high and seven in diameter at the base. The adjacent country was anciently covered by the sea.

Camargue,

Camargue, Camaria, an island formed by the two branches of the Rhone already mentioned, is a marshy, fertile, and well peopled tract, of a triangular form, intersected by several canals. It is 18 miles in length, and yields excellent pasture for horses and cattle.

Between the Rhone and the lake of Berré, is a stony plain of 150,000 acres, called Crau, composed of round gravel, and producing some herbage for sheep. In that neighbourhood, about two leagues south-east of Tarraçon, is *Baux*, a small town on an eminence, with an old castle formerly of great strength, and occupied by Lords who possessed an extensive territory.

Tarraçon, the birth-place of Joseph Privot de Molieres, an old well built town, containing 9,069 inhabitants, with a castle fortified in the antique taste, in a fruitful plain, on the left bank of the Rhone, four leagues south of Avignon, and opposite to Beaucaire.

St Remi, the birth-place of Nostradamus, an old town in a fruitful territory, near the south extremity of Lake Glaciere, four leagues north-east of Arles. About a mile from the town there is an ancient mausoleum built of stone, eight toises, three feet, nine inches in height, with the remains of a triumphal arch.

Barbantane, the principal place of a lordship, on an eminence, near the conflux of the Durance and the Rhone. Its environs abound in wine and fruits.

Marseille, Massilia, formerly a bishop's see, the second place in Provence as to rank and the first for trade, is an ancient, large, populous city, containing a cathedral, an academy of belles lettres established in 1726, five parishes, four abbies, 33 convents, eight hospitals, an observatory, a large arsenal, and 80,000 inhabitants, situate on the left hand of a commodious road or bay, six leagues south-west of Aix, 15 north-west of Toulon, 26 east of Arles, 35 south-west of Nice, and 158 south-east of Paris. It is divided into the Old and New Town, the

former of which is meanly built on a rapid declivity, with narrow streets; the latter, at the foot of the hill, is regularly and handsomely built, and defended by a citadel. This city is the birth-place of Pytheas, P. Feuillée, Jules Mascaron, Dumarsais, Charles Plumer a botanist, &c. The entrance into its spacious harbour is narrow, difficult, and fortified; but the harbour has not sufficient depth of water for men of war. There are no remains of its ancient magnificence. It contained an independent republic until it was subjected by Louis XIV. A. D. 1660, who deprived the inhabitants of their liberties and privileges, built the citadel, and fortified the entrance into the harbour. In 1720, it was visited by a pestilence that raged two years. Besides a brisk foreign trade, it has manufactures of silk and of gold and silver stuffs. Three small islands, viz. Coga Stracia, Lilia, and Castle Dito, about a league from the town, are fortified, but barren. They indicate the course to the harbour, and between them are clear channels and good anchorage. Under one or other of them ships may be sheltered from every wind. The best channel lies between the second and the third. There is also good riding in the bottom of the bay due east, and under the shore south-east of the city. The port is commanded by several castles and forts; and ships must steer sometimes on one side, and sometimes on the other, close under the batteries; but the channel is pointed out by proper marks. Cape Creusetta is the eastern extremity of the bay. The country northward is hilly, bare, and uninteresting.

Cassis, an inconsiderable place in a fertile spot, south-east of Marseille, with a harbour choked up, at the bottom of a small bay.

Ciotat, a small, populous, trading town, and sea-port, noted for an intermitting fountain, on the west coast of a bay, six leagues south-east of Marseille, and eight west of Toulon. It is sheltered from the south and south-west by an islet and some rocks.

La St Beaume, an inland noted place, among a group of rocks, five leagues north of Ciotat. Its cave the superstitious believe to have been the residence of Mary Magdalene.

Brignolles, Brinonia, an old, indifferently built inland town, containing upwards of 4,000 inhabitants, the birth-place of Joseph Parocel and P. le Brun, eight leagues north of Toulon, in a fine tract bounded by hills, and famous for its plumbs. In its neighbourhood the abbey De la Celle was founded A. D. 1011.

Maximin, a small decayed place that owed its origin to a Benedictine convent, three leagues northward of Brignolles, below the source of the Argens. The church is a fine monument of the thirteenth century.

Toulon, Telo Martius, a considerable, indifferently built, well fortified, trading town, containing a cathedral, several religious houses, and 20,500 inhabitants, with a safe harbour of difficult entrance. Some writers estimate the population, including the garrison and suburbs, to be 80,000. The new part of the town is well built. Its manufactures are cloth, silk stuffs, hats, soap, &c. The old and new harbours are contiguous, and by means of a canal there is a passage from the one to the other, both having an outlet into the outer-harbour, which is somewhat circular, of great extent, and almost surrounded by hills. Both sides of the entrance are defended by forts and strong batteries. The new harbour, the work of Louis XIV. is also defended by batteries, and round it is the arsenal, furnished with all kinds of naval-stores, yards, and docks. This town was taken by the English A. D. 1793, and soon after evacuated. It is 16 leagues south-east of Aix, 14 south-east of Marseille, 28 south-west of Nice, and 170 south south-east of Paris. There was a naval engagement near it A. D. 1744, between the English fleet and the combined fleets of France and Spain. The coast eastward consists of barren rocks and hills, covered with shrubs and pines, but the road westward to Marseille runs through a winding glen, with rocky hills on either side, and little fertile vales planted with vines and olives.

Hieres,

Hieres, Areæ, the birth-place of Massillon, a mean town, formerly more considerable, on a declivity, five leagues east of Toulon, in a territory yielding delicious fruits, at some distance from the bottom of a large bay of the same name; the sea having retired upwards of 2000 paces. Here a large quantity of sea-salt is manufactured. At the port of Hieres, pilgrims for the Holy-land embarked. Opposite to the bay, or road, of this place, there are three small, irregular islands, anciently called Stoechades, at present Isles d'Hieres, and Isles d'Or, viz.

Porquerolles, anciently Mese, four leagues in length, and one in breadth. *Portcros*, and *Titan*, or *Levant*, nearly as large as Porquerollis. On these islands are curious medicinal plants; but they do not merit the grand description commonly given of them. Beside the three already mentioned, there are several smaller islands; as Robadin, between the west end of Porquerolles and the main land, and Baguean between the east extremity of Porquerolles and Port-cros. The bay or gulf of Hieres, is a noted road for ships, and forms an excellent harbour, or bason, with a moderate depth of water, and proper openings, the most spacious of which is from the east; but a very high sea is sometimes occasioned by a south or south-east wind.

Grimaud, Athenopolis, a little trading town, 12 leagues north-east of Toulon, on the eastern coast of Provence, near the bottom of a gulf of the same name, also called the bay of St Tropez, from a sea-port situate in a peninsule where the largest ships may ride in safety.

Frejus, Forum Julii, the birth-place of Agricola, formerly a considerable, now a small fortified town, containing a cathedral, a parish-church, and four convents, in a marshy and insalubrious site, to the left of the Argens, about half a league from the sea-coast, 16 leagues north-east of Toulon, and 12 south-west of Nice. Its port is choked up. Among the remains of antiquity are a Roman amphitheatre and an aqueduct.

Cotignac and Barjols, inconsiderable places, pleasantly situate among the mountains, two leagues from each other, northward of Toulon, near the sources of the Argens.

Draguignan, Dracanum, a town containing several religious houses and 6,000 inhabitants, near the rivulet Artubie, environed by fertile plains, five leagues north west of Frejus, and 15 north north-east of Toulon. The palace of the bishop of Frejus is a fine edifice.

Lorgues, Leonica, a little town in a plain, on the left hand of the Argens, six leagues north-west of Frejus, and 13 east of Aix. Its environs produce excellent fruits.

Grasse, Grinnicum, a considerable trading town, in a territory yielding olive oil, and fruits, at some distance from the sea-coast, seven leagues north north-east of Frejus, six west of Nice, and four north of Cannes a sea-port, containing 12,521 inhabitants. Its manufactures are perfumes, with oil, wax, &c.

Antibes, Antipolis, an ancient, tolerably built, fortified maritime town, defended by a citadel, on a neck of land, to the westward of which is a bay, and to the east a good harbour or bason for small ships, $4\frac{1}{2}$ leagues south-west of Nice. Its port is protected by several batteries. About two leagues south of Antibes, there is a spacious and secure road, formed by C. Garaup and the island of St Margaret. This island, formerly called Lero, and that of St Honorat on Lerina, are named Isles de Lerins. They were taken by the Spaniards in 1635, and recovered by the French in the year following. In their vicinity are two islets called Formique and la Grenille. The hills near Antibes are uncultivated.

Vence, a small, mean, old town, formerly a bishop's see, at some distance from the coast, a league north-east of Antibes, near the frontier of Piedmont. Here many ancient inscriptions have been found.

Upper Provence contains the following places:

Castellane, Salinæ or Civitas Salinarum, a little inland town, containing 1,962 inhabitants, at the foot of a rock, on the right bank of the Verdun, in a fruitful tract between two hills, three leagues south-east of Senez, and 21 north-east of Aix. The rock on which the town anciently

ently stood, is insulated and inaccessible, except on the east side. Its summit is 200 paces long and 50 broad. In 1260 the inhabitants removed to the plain below. In that neighbourhood is a copious salt spring.

Riez, Albece and Civitas Reiensium, an old, populous town, formerly a bishop's see, and the seat of a council in 439, in a plain between the Asse and Verdun, 18 leagues north of Toulon, 12 north-east of Aix, and 150 south-east of Paris. Its environs abound in wine and fruits. Riez contains 2,500 inhabitants.

Moustiers, Monasterium, a little town with a convent of Servites, about three leagues north-east of Riez, between two hills, joined by a ridge of ore. Its manufacture of porcelaine is in some estimation.

Senez, Sanitium, a mean place, though formerly a bishop's see, on the right hand of the Verdun, in a rugged, barren, and hilly tract, four leagues south of Digne, and 16 south of Embrun, containing 700 inhabitants.

Glandeves, Glanata, formerly a considerable town, almost destroyed by the inundations of the Var, at the foot of the Alps, near the confines of Piedmont, nine leagues north north-west of Nice, 16 south-east of Embrun. It is the birth-place of M. de Peyrese. The episcopal palace remains; but the bishop and most of the inhabitants have retreated to Entrevaux, a little fortified town in that neighbourhood.

Guillaumes, a small, slightly fortified town, three leagues north north-west of Glandeves, among the mountains, below the source of the Var. This place was ceded to the King of Sardinia, A. D. 1760.

Digne, Dinia or Civitas Diniensium, a bishop's see and old town, containing 2,800 inhabitants, in a pleasant territory abounding in fruits, at the foot of the mountains, on the torrent Bleonne, 13 leagues south south-west of Embrun. It is noted for mineral waters, impregnated with sulphur and alkaline salt, and is the birth-place of Gassendi.

Seine, Sedana, an inconsiderable place among the mountains.

Colmars,

Colmars, Collis Martis, a town below the source of the Verdun, among the mountains, near the border of Nice, 10 leagues south of Embrun, and seven north-east of Digne. In its vicinity there is a spring that ebbs and flows sixteen times in the space of one hour.

Sisteron, Civitas Segesterorum and Senistro, the birth-place of Albertet a poet, formerly a bishop's see, and a town defended by a citadel, at the foot of a rock on the right bank of the Durance, 18 leagues north north-east of Aix, 14 south-west of Embrun, and 132 from Paris. It contains 3,891 inhabitants.

Forcalquier, Forum Calcarium, anciently the capital of a county independent on Provence, and united to it in 1193, in a delightful tract watered by the Laye, seven leagues south south-west of Sisteron. This place is noted for its three annual fairs, and contains 2,539 inhabitants.

Manosque, Manuesca, a small populous town, founded in the 8th century, containing two parishes and seven convents, in a pleasant and well watered valley, four leagues south of Forcalquier, and half a league from the right bank of the Durance. Near it is a mineral spring, with coal mines. It contains upwards of 3000 inhabitants.

Apt, Apta Julia, one of the oldest towns in France, and formerly a bishop's see, containing a cathedral, two abbies, several convents, and 4689 inhabitants, situate on the Calavon, eight leagues north of Aix. It was the seat of a council in 1365, and is a place of some trade. In it are some Roman antiquities.

Barcelonette, a town founded A. D. 1230, by Raymond Berenger, Count of Provence, and ceded to France by the treaty of Utrecht, on the right bank of the Obaye, in a pleasant valley of the same name, abounding in pasturage, twelve leagues north-north-east of Digne; it contains about 2000 inhabitants.

The state of *Avignon* and the county of *Venaissin* are almost surrounded by Provence, being bounded on the west by the Rhone, and on the south by the Durance. This delightful tract abounds in grain, wine,

wine, and saffron. It formerly belonged to the Counts of Toulouse and Provence. At one period the inhabitants asserted their independence, but were again subjected A. D. 1261. Johanna, Countess of Provence and Queen of Sicily, disposed of the town and district to Clement VI. Roman Pontiff. They are now united to the French territories.

Avignon, Avenio, a bishop's see, the birth-place of Crillon, Folard, St Didier, &c. and during 62 years a pontifical residence, is an irregular, indifferently built, and walled city, three miles and two furlongs in circuit, containing a cathedral whose interior part is of admirable workmanship, an archbishop's palace, an university founded in 1303, a Gothic apostolical palace, two seminaries, many handsome churches, 34 religious houses, and 20,200 inhabitants. In one of the churches is the almost defaced tomb of Laura celebrated by Petrarch. There are some manufactures of silk stuffs in this city, but little trade. It is situate in a fine country, resembling Piedmont, on the left bank of the Rhone, above the influx of the Durance, five leagues south of Orange, 14 north-west of Aix, and 131 south-east of Paris. A bridge of 19 arches was built over the Rhone towards the conclusion of the 12th century, and destroyed in 1660. In a romantic valley, three leagues from the city, is the fountain of Vancluse, whither Petrarch retired to indulge his grief and hopeless love. That fountain is a cavern at the foot of a perpendicular rock. In its vicinity is a village on a beautiful island formed by the river, and shaded by mulberry-trees.

Carpentras, Carpentoracte Meminorum, an old town of a triangular form, containing 8,489 inhabitants, on the Auzon, in the county of Venaissin, near a small ridge of hills called Mount Ventoux, five leagues south-east of Orange, and as far north-east of Avignon. It is a bishop's see, and was the seat of a council in 527. Its environs yield wine, oil, and saffron. *Perne*, near Carpentras, is noted only for being the birth-place of Flechier bishop of Nismes.

Vaison,

Vaison, Vasco or Vasio, formerly a bishop's see, and a little open town with an old castle, on a hill bathed by the Ouveze, eight leagues north north-east of Avignon, in the north part of Venaissin, between the principality of Orange and Dauphiné. The old town was destroyed by the Saracens towards the conclusion of the 6th century, and its ruins appear in the plain. Vaison contains about 1900 inhabitants.

Venasque, Vendasca, formerly the capital of Venaissin, now a mean and almost deserted place, on a hill, near a stream of the same name, six leagues southward of Carpentras. The old town stood in the plain.

Monteoux, Montilium, a town where Pope Clement V. resided, in an old castle, a few miles south-west of Carpentras, in the road to Avignon, on the Auzon that waters a fertile plain.

L'Isle, Insula, a neat town, environed by the river Sorgue, four leagues east of Avignon, in a fertile and well cultivated district, a league and a half from the fountain of Vancluse.

Cavillon, Cabellio, an inconsiderable town and formerly a bishop's see, on an eminence near the right bank of the Durance, five leagues south-east of Avignon, and 10 north-west of Aix. In this place some Roman antiquities have been found.

Vaubreas, or Vaureas, in the north-east corner of Venaissin; *Palud*, *Boulene*, *Mornas*, &c. are places of no estimation.

10. LANGUEDOC.

Languedoc, Occitania, a portion of Gallia Braccata, is a maritime province, bounded on the north by Guienne, Auvergne, and Lyonnois, on the east by the Rhone, on the south by Foix, Rousillon and the Mediterranean, on the west by the Garonne. It is difficult to ascertain the contents of this country on account of the irregularity of its form. It lies between 42° 40′ and 45° 20′ north latitude, and between 1° 20′ and

4° 45′ east longitude. In 43° 30′, the parallel of Toulouse nearly, it extends 53 leagues from west to east; but, towards either extremity, it does not exceed 33. Its breadth, for most part, is 33—38 leagues, except towards the middle, where it scarcely amounts to 40 miles. The coast from Agde eastward is considerably augmented, the sea having retired, as appears by comparing the situation of the maritime places in ancient and modern times.

The surface of this province consists of mountains and vallies, hills and plains. The Cevennes are a steep and lofty ridge that traverses Vivarais, Gevaudan, Rouergue, the dioceses of Alby and Castres where it forms the Black Mountain. Thence passing through the district of Foix it joins the Pyrenees. This ridge sends out various branches east and west. One runs along the river Ardeche towards Ales. Another extends across the Rhone, on the side of Tournou and Vienne, towards the plains of Dauphiné. A third, about 70 leagues long, and in some places not above one broad, forms the Beaujolois mountains, passing by Autun and terminating near Avalon. A fourth branch, forming the mountains of Forez, separates the plain of the Loire from that of the Allier. A fifth passes by Clermont to Montluçon, between the bason of the Allier and that of the Cher. A sixth elongates towards Limoges. Another stretches from the Dordogne towards the Charente. An eighth divides the Dordogne from the Garonne. In those mountains, which are partly covered with forests, and partly cultivated, there are lead and iron mines. The lower tracts are fertile and well watered, yielding grain, wine, and fruit; but one-half of the province is of an ungrateful and unproductive soil.

The principal rivers are the following:

The *Rhone*, already described—(see Gaul). The *Garonne* that descends from the valley of Aran among the Pyrenean mountains, and bathes the western border of Upper Languedoc; the *Loire*, whose source is in Mount Gerbier-le-joux in Vivarais the *Ceze* that rises in Usez;

the *Gardon* that flows from the Cevennes to the Rhone ; the *Vistre*, whose origin is in the vicinity of Nismes, and its termination in the small lake of Mauguio ; the *Erault*, which proceeds from Mount Eygnel in the Cevennes to the sea below Agde. The *Orbe* descends from the Cevennes, and traverses the royal canal : the *Aude* originates in Rousillon, and becomes navigable at Narbonne : from Foix, near the frontier of Spain, the *Ariege* shapes its course to the Garonne : the *Allier* rises in Mount Louzere, one of the most elevated mountains in Gevaudan, and discharges itself into the Loire : the source of the *Tarn* is near Florac, and it unites with the Garonne at Moissac : the *Lot* proceeds from Gevaudan, and falls into the Garonne near Aiguillon.

In this province many canals have been formed for commercial purposes. The most considerable and useful is the royal canal, that extends from the Mediterranean Sea to the Western Ocean. The greatest elevation is at Narouz, where several rivers are assembled and conducted into the canal. From Narouz to the Garonne the distance is 34¼ English miles, and the declivity 205 feet. In that space there are 29 sluices. From Narouz to the Mediterranean the distance is three times greater, and the number of sluices 75. Quays, basons, and bridges are constructed in the most convenient places on the canal. At St Ferriol, about a mile below Revel, between two rocky mountains representing a half moon, is a reservoir 1,200 toises long, 500 broad, and 20 in depth. Below Castelnaudari there is another fine bason of water 1,279 feet in length, and 960 in breadth, with a depth of 7½ feet. This canal was begun A. D. 1666, and completed in 1680, by Riquet, whose descendants are Counts of Caraman. The expence of the whole work was 13,000,000 livres. The coast of Languedoc is of considerable extent, but of dangerous navigation. There are many shoals, and the wind is often violent. Several harbours have been formed, but they were soon filled with sand.

In the fifth century this province was over-run and occupied by the Visigoths. About the beginning of the eighth century, these barbarians were

were expelled by the Saracens, who were dispossessed by Pepin. The several districts of which it is now composed were, by force or treaty, brought under the immediate sovereignty of French kings, and united to the crown in 1361. Towards the middle of the sixteenth century, the reformation made rapid progress in this country; but a civil war ensued, and raged about 100 years, during which period it was a scene of continual commotions, troubles, and cruelties.

Languedoc is sometimes divided into Upper, Lower, and the Cevennes. *Upper Languedoc* includes nine dioceses, viz. Toulouse, Montauban, Albi, Lavour, Castres, Rieux, Mirepoux, St Papoul, and Commings. *Lower Languedoc*, contained eleven bishoprics, viz. Aleth, Carcassone, St Pons, Narbonne, Beziers, Agde, Montpellier, Lodeve, Nismes, Alais, and Uzes. In *Cevennes* were three bishoprics, viz. Mende, Viviers, and Puy.

Geographers divide this province into Upper and Lower; containing three archbishoprics, 23 bishoprics, 61 abbies, 637 priories, 353 religious houses, 60 commanderies, 200 towns and villages, 2 universities, 6 academies, 1000 ecclesiastics, 342,758 families, and 1,560,000 inhabitants. The ecclesiastical division has been differently arranged since the revolution.

Cities, &c. in Upper Languedoc.—Toulouse, Tolosa Colonia, and Civitas Tolosatium, the capital of the province, and an archbishop's see, is an ancient, large, irregularly built city, formerly containing an university founded A. D. 1229, an academy of sciences instituted in 1746, an academy of painting and sculpture in 1750, a cathedral, several splendid churches and other public buildings, and 50,000 inhabitants; situate in a delightful plain, on the left bank of the Garonne, half an hour from the western extremity of the royal canal, 50 leagues south-east of Bourdeaux, 45 west of Montpellier, 135 south south-west of Paris. It is the birthplace of Pierre Bunel, Guillaume Catel, Jacques Cujas, Emmanuel Maignan, Jean du Pin, Jean de Coras, Jean Doujat, Simon Laloubere, Jacques de Tourreil, &c. The streets are broad, and the houses built of brick; but the trade is inconsiderable. Here are the remains of an amphithea-

tre, a capitol, a temple, Roman aqueducts, and other monuments of antiquity. It was one of the most flourishing cities of the ancient Gauls, and a Roman colony; in process of time it became the metropolis of the Visigoths, afterwards of Aquitaine, and at length one of the principal governments of France, and the seat of a parliament. Its former literary institutions were abolished at the revolution, and new societies have been established. There is a bridge over the Garonne, 145 toises long, and 7 broad, consisting of 7 arches. Thence to the Pyrenees there is a ridge of hills, the lower parts of which are cultivated.

Castel Sarrazin, i. e. Castel-sur-Azin, a small town containing about 7000 inhabitants, with the ruins of an old castle, in the diocese of Montauban, at the north-west extremity of the province, on the right bank of the Garonne, near the influx of the Tarn, 13 leagues north north-west of Toulouse.

Alby, an old city, formerly an archbishop's see, and the seat of a council in 1176, containing a magnificent cathedral, and 9,600 inhabitants; on an eminence bathed by the Tarn, near the centre of a diocese of the same name, 15 leagues north-east of Toulouse. It is the capital of Albigeois, a populous and fertile tract, 10 leagues in length and 7 in breadth, consisting partly of hills and partly of well cultivated plains. Here the doctrine of the Albigenses was anathematized. Alby is the birth-place of M. de la Peyrouse, a celebrated navigator.

Gaillac, an ancient, walled, trading town, with considerable suburbs, containing 6,400 inhabitants, on the navigable Tarn, four leagues below Alby, and six north of Lavaur. It is noted for a Benedictine abbey secularized in 1536, and for being the birth-place of Vaisette an historian, Gaubil a missionary to China, and Portal a learned anatomist. Its environs yield excellent wine.

Castres, Castrum Albigentium, formerly a bishop's see, and the second town in Albigeois, containing about 15,000 inhabitants, 15 leagues eastward of Toulouse, at the conflux of the Thoret and Agout. This

town

town owes its origin to a Benedictine abbey founded in 1317, and is the birth-place of Andrew Dacier, Rapin de Thoyras, and Abel Boyer. In the year 1567, the inhabitants demolished the Catholic churches, and fortified the town, but in 1629 they submitted to Louis XIII. and the fortifications were demolished. There are manufactures of flannels, bed-cloths, &c.

Lavaur, Castrum Vauri, a town containing 6,237 inhabitants, formerly a bishop's see, and the seat of a council in 1212, on the Agout, seven leagues east north-east of Toulouse, and eight south south-west of Alby. Here the religious wars broke out A. D. 1561, and the inhabitants destroyed its strong castle.

Puy Laurens, formerly a considerable, at present a small market-town, and the birth-place of Polignac, three leagues westward of Castres, on an eminence near the centre of Lavaur and source of the Girou. On the commencement of hostilities, the Protestants fortified this place; and they had an academy here that subsisted till the revocation of the edict of Nantes.

Revel, a small town, and the birth-place of David Martin, formerly fortified, now an open place, in a diversified plain, three leagues from Papoul, and 11 east south-east of the capital.

Papoul, Sancti Populi Fanum, a little town, formerly a bishop's see, founded in 1317, on the Lambe, north of the royal canal, 13 leagues south-east of Toulouse, and six north north-west of Carcassone.

Castelnaudari, Castrum Novum Arri, the capital of Lauraguais, and an indifferently built town, containing upwards of 7,000 inhabitants, in a fertile tract, on a gentle eminence, at the foot of which is the royal canal, seven leagues north west of Carcassone. Near this place the Duke of Montmorency was taken prisoner A. D. 1632.

Rieux, Rivi, a small manufacturing town, and formerly a bishop's see, on the Rise, near its influx into the Garonne, 10 leagues south south-west of Toulouse. The spire of the cathedral is one of the finest

in

in the kingdom. Between Montjoy and Audinat are three mineral springs. At Arlen is a natural bridge formed by a rock; and at Berat is a spring that ebbs and flows. In the district of Seix are lead and copper mines.

Mirepoix, Mirapicum, a strong place in the beginning of the 13th century, now a considerable town, and formerly a bishop's see, south of the canal, on the river Lers, six leagues north-east of Foix, and 16 south south-east of Toulouse. Its new and magnificent bridge of seven arches cost £. 79,000 nearly. In its neighbourhood are iron-mines and mineral springs.

Bellestat, a village near the Lers, five leagues south of Mirepoix. This place is noted for the Fountain of Fontestorbe, i. e. the interrupted spring that issues from a cavity in a rocky hill. In the months of June, July, August, and September, it generally ceases to flow, except in a rainy season, when its course is incessant.

St Beat, a strong town, with some trade in black cattle, horses, and mules, between two hills, at the influx of the Pique into the Garonne. All the houses are built of marble, this being the only kind of stone in its neighbourhood.

Aleth, Alecta, a town in a fertile valley of *Lower Languedoc*, at the foot of the Pyrenees, on the river Aude, six leagues southward of Carcassone, and 15 south-west of Narbonne. Here was originally a Benedictine monastery, round which a town was gradually built. About five miles southward are the warm-baths of Rennes, known to the Romans.

Limoux, Limosum, a considerable, populous, manufacturing, and trading town, containing 3,142 inhabitants, on the Aude, a few miles below Aleth. Here are the store-houses of the iron-works in that neighbourhood. The adjacent country is delightful, and yields good white wine.

Escouloubre, the small capital of Sault, and a place of some importance while the Spaniards were in possession of Roussillon.

St Paul de Fenouilledes, a little town six leagues south south-east of Aleth, among the mountains, on the Egli.

Carcassone, formerly a bishop's see, and a considerable manufacturing town, containing 15,200 inhabitants, divided into upper and lower by the Aude, near the place where the river approaches the royal canal, 12 leagues west of Narbonne, and 19 south-east of Toulouse. The upper town, situate on an eminence, is meanly built, and commanded by a castle. The lower part of the city is populous, and its manufactures of cloth are in a flourishing state. The streets are strait, intersecting one another at right angles. The neighbouring country is hilly, and interspersed with olive trees and vineyards. There are silver-mines at Carnette, and at Canne are marble quarries.

La Grasse, a little town in a valley, watered by the Orbein, six leagues south-east of Carcassone, at the foot of Mount Courbiere, near a Benedictine abbey, founded, it is said, by Charlemagne.

Narbonne, an ancient, considerable, well built city, and formerly an archbishop's residence, containing a cathedral, five parishes, many convents and hospitals, and 9,000 inhabitants, within two leagues of the sea-coast, in a deep valley surrounded by hills, 12 leagues northward of Perpignan, 19 south-west of Montpellier, and 30 east south-east of Toulouse. It is divided by a canal called Rubinne, or Robine, filled with water from the Aude, by which it communicates with the royal canal and the Mediterranean. This town, neither flourishing nor populous, is environed by a strong wall flanked with bastions. In the time of the Romans, it was the capital of Gallia Narbonensis; but no monuments of antiquity are extant. The country from Narbonne to Toulouse, is an extensive, open, and, in many parts, barren plain, where scarce a tree is to be seen except olives. On one hand appear the Pyrenees at a considerable distance; and, on the other, the Black Mountains, which

divide

divide Languedoc from Rouergue. The population is thin, and the appearance of the country bleak and inhospitable. Upon all the coast of the gulf there is good anchoring ground, and regular shoalings, but no harbours or trading-ports, except those of Roses and Celte. In the bay there is also a great depth of water every where, and a dangerous surge of the sea from Cape Dragon to the islands of Hieres.

Sigean, a little town on the Berre, noted for its salt-works, near a lake that communicates with the sea, five leagues south of Narbonne. In its vicinity Charles Martel defeated the Saracens A. D. 737.

Robine, a thinly inhabited, fortified place, in a marshy territory. There was anciently a harbour in a lake of that name; but this has long ago been choked up.

Leucate, a little, decayed town, near the sea-coast, and a lake of the same name, seven leagues south of Narbonne, and five northward of Perpignan. Formerly fortified, it sustained a siege against a Spanish army A. D. 1637; but its fortifications were demolished by Louis XIV.

St Pons, a small town, and formerly a bishop's see, containing 4,500 inhabitants, pleasantly situate in a valley watered by the Jaur, north of the royal canal, among hills abounding in marble, eight leagues north north-west of Narbonne. The bishop's residence was at St Chignan, a small manufacturing town that owes its origin to a Benedictine abbey. His diocese include 40 parishes.

Beziers, Biterræ, an ancient well built town, containing 14,000 inhabitants, environed by a wall flanked with towers, on an eminence and declivity, in one of the most fertile districts of Languedoc, near the junction of the royal canal and the Orbe, five leagues north-east of Narbonne, not far from the coast of the Mediterranean. It is the birth-place of Jean Barbeyrac an eminent civilian, Pelisson, Mairan, &c. and contains an handsome cathedral, a college, and an academy of sciences. A fragment of a Roman amphitheatre still exists. From this town eight sluices of the canal are visible. The principal manufactures

in Beziers are fustains, cloth, silk-stuffs, brandy, and spirit of wine distilled.

Cabian, a village on the Tougoue, near the centre of the diocese of Beziers. In its environs are several natural curiosities, viz. a mineral spring, black petroleum issuing out of a rock, pieces of bitumen, &c.

Vendres, an inconsiderable market-town, on the border of a lake of the same name, at the mouth of the Aude, three leagues south of Beziers. Here is a mineral spring of a singular appearance.

Agde, a small populous town, inhabited chiefly by tradesmen and seafaring people, on the Heraut, half a league from the sea-cost, near a branch of the royal canal, eight leagues north-east of Narbonne, eleven south-west of Montpellier, and 145 southward of Paris. It contains a cathedral, three parishes, several convents, and 7000 inhabitants. Its environs are fertile and agreeable. The entrance of the river is defended by a small fort, called Fort de Brescou, on a rock. In that neighbourhood was a rich convent of Capuchins.

Pezenas, Piscenæ, a neatly built trading town containing 7000 inhabitants, situate on an eminence in a fruitful country, at the conflux of the Peyne and Heraut, above Agde, five leagues north-east of Beziers, and nine from Montpellier.

Cette, or St Louis, a new town, with a harbour formed and fortified by Louis XIV. at the commencement of the royal canal, in a narrow peninsule between lake de Thau and the sea. In this place there is a flourishing manufacture of tobacco, and a considerable trade in wine and brandy. It contains 7,500 inhabitants.

Lodeve, Luteva, an old, irregular, ill built, manufacturing town containing about 7000 inhabitants, in a dry and barren territory at the foot of the Cevennes, on the L'Ergue, 17 leagues west of Nismes, 14 north-east of Narbonne, 11 north-east of Montpellier. In this latitude the extent of the country from the sea-coast to the confines of Rouergue

does not exceed 40 miles. The diocese of Lodeve is hilly, yielding little grain, and excellent pastures.

Montpellier, Mons Pessulanus or Mons Puellarum, an irregularly built decayed manufacturing town, with a ruinous citadel, containing 33,900 inhabitants, agreeably situate on a declivity bathed by the Lez, two leagues from the sea, 11 leagues south-west of Nismes, 19 north-east of Narbonne, 14 westward of Arles, and 22 south-west of Orange. It is a bishop's see, was the seat of an university founded A. D. 1289, of an academy of sciences established in 1706, and is the birth-place of Pierre Rebuffe, Sebastien Bourdon a painter, Franc. Peyronie, &c. It carries on a considerable trade in woollen cloth, muslin, verdigrease, wine, and oil, and is noted for its botanical garden. Thence a rich and marshy tract extends to the Mediterranean. A fine aqueduct supplies the town with water. A series of cultivated hills stretches northward.

Lunel, Lunate and Lunelium, formerly a noted town between Montpellier and Nismes, in an agreeable territory, on the right hand of the Vidourle, at some distance from the coast. Here a citadel was constructed in 1574, and demolished by Louis XIII. in 1632.

Balaruc, a little town at the north-east extremity of Lake Thau, and south-west of Montpellier; famous for its delicious wine, and for its warm baths, whose water retains its heat eight hours after being taken from the fountain. This water is slower in boiling than common water, and its ebullition is less vehement.

Frontignan, a little town on Lake Maguellone, also called Lake Thau, and famous for its wine, a league east of Balaruc, six north-east of Agde, and five south-west of Montpellier.

Nismes, Nemausus, an ancient, large, tolerably built, flourishing city, formerly a bishop's see, and the seat of four councils, containing a royal academy, many religious houses, with a citadel on an eminence, and 59,000 inhabitants; pleasantly situate in a fine plain, on the right hand of

of the Rhone, near the foot of hills covered with vines, five leagues north-west of Arles, eight south-west of Avignon, 11 north-east of Montpellier, 30 north-east of Narbonne, and 135 south-east of Paris. It is the birth-place of Samuel Petit, Jaques Saurin, Leon Menard, &c. The streets are narrow; but the houses are of stone, and handsomely constructed. The principal manufactures are those of cloth and silk. This city is also famous for an ancient amphitheatre of an elliptical form, 431 feet long and 210 broad, a pantheon or temple of Diana, an octangular tower originally 121 feet in height. The country west of Nismes is rough, stoney, and disagreeable, planted with olive and mulberry trees and vines.

Aigues-mortes, or Aigue-morte, a small town, in a low, marshy, insalubrious tract, formerly a maritime town on the sea-coast with a harbour, but at present three leagues inland, and six eastward of Montpellier. In its vicinity are several small lakes. With Montpellier and the western mouth of the Rhone it communicates by narrow channels, within the chain of islets that extends along this part of the coast from Beziers to the eastern mouth of the Rhone. There is tolerable anchorage in most places without those islets at a little distance from the shore.

Quissac, an inconsiderable place, six leagues north-west of Nismes, on the Vidourle, near which is a periodical spring impregnated with sulphur, running and intermitting twice in 24 hours.

Pont du Gard, a famous aqueduct three leagues north of Nismes, on the river Gardon. It is one of the finest monuments of Roman antiquities that exists. This bridge consists of three rows of arches. The first, or lower range, composed of six arches, is 531 feet in length; the second of 11 arches, and 850 feet long; the highest of 35 arches, and 870 feet long. It was constructed to convey water to Nismes from the fountain of Eure, across the valley of Gardon, which is 160 feet in depth.

Beaucaire, Castrum Belliquadri, a considerable town near the west bank of the Rhone, opposite to Tarascon, three leagues above Arles, and

six east south-east of Nismes. Its castle, on a neighbouring eminence, was demolished A. D. 1632. At an annual fair, in a neighbouring meadow, great quantities of raw-silk and other commodities are sold. The river is broader than the Thames at London. It contains 7,000 inhabitants.

Usez, Castrum Usetiense, formerly the capital of a diocese including 181 parishes, an inconsiderable town among the mountains, on a small river six leagues north of Nismes, and 8 west north-west of Avignon, near the fountain of Aure, or Eure, which formerly supplied the aqueduct of Pont du Gard with water. The palace is large and flanked with towers. Some ancient inscriptions have been found in this town and its environs. The mineral spring of Peyret, in that neighbourhood, is used in scorbutic and venereal disorders. The diocese of Usez is fertile, abounding in grain, oil, silk, wine, and pastures, and extends from the Cevennes to the Rhone. Usez contains 6,191 inhabitants.

Pont St Esprit, a small and indifferently built town consisting of 800 inhabited houses, on the right bank of the Rhone, eight leagues north-east of Usez, and 130 from Paris. It is famous for its bridge across the Rhone, 420 toises long, two toises, four feet, four inches wide, supported by 26 arches. It was begun in 1250, and finished in 1265.

Bagnols, Balneolum, a meanly built town, consisting of 900 houses, with narrow streets, in a pleasant and fertile tract, near the Ceze, two and an half leagues south south-west of Pont St Esprit, in the road to Usez. This place owes its name to the baths constructed here by the Romans.

Roquemaure, a little town on a rock near the Rhone. Its environs yield good wine.

Villeneuve d'Avignon, a small town defended by a fort, separated from Avignon by the Rhone, on a declivity at the foot of Mount St Andre. It contains a Benedictine abbey and 2000 inhabitants.

Alais, or Alez, Alesia, formerly a bishop's see, and indifferently built manufacturing town, containing 9,000 inhabitants, situate on a branch of the

the Gardon, six leagues north-west of Usez, and eight north north-west of Nismes. Hence a great quantity of raw-silk is annually exported. The citadel of Alez was built by Louis XIV. A. D. 1689. The adjacent country, diversified with hills and well cultivated vallies, abounds in coal-mines.

Mende, Mimas, a bishop's see, and an ancient, small, indifferently built town, on a hill bathed by the Lot, 20 leagues north-west of Usez, and 22 north north-west of Nismes, near the centre of a diocese noted for three remarkable grottos. It contains 5,014 inhabitants.

Marvejols, Marilogium, a small, handsome, trading town, containing a church, 5 convents, and 3,600 inhabitants, in a delightful valley watered by the Colange, four leagues north-west of Mende, and 108 south south-east of Paris. In its neighbourhood are the grottos already mentioned. In the reign of Henry III. the inhabitants embraced Protestantism, but in 1586 they were obliged to surrender to the king's forces. *Langogne*, *Canourgue*, and *Javoulx*, are places of little note.

Viviers, in the middle age Vivarium, and Castrum Vivariæ, formerly a bishop's see, now a mean town, on a rocky site bathed by the Rhone, 12 leagues south of Valence, 9 north north-west of Orange. Vivarais, of which it is the capital, is a district partly hilly and partly level and fertile, stretching northward to the confines of Lyonnois. It contains 1,800 inhabitants.

St Andiol, Fanum St Andeoli, a considerable market town, and the ordinary residence of the bishop of Viviers, containing several churches and convents, on the Rhone below Viviers, at the influx of the Ardesche.

Vals, a small walled town, in a valley bounded by fertile eminences on the Ardesche, five leagues from the Rhone, and seven north west of Viviers. This place is famous for its cold mineral springs, some of which are acid and others saline. Lower Vivarais likewise contains,—*Aubenas*, a manufacturing town; *Villeneuve*, on the torrent Ibie, three leagues north-west of Viviers; *Aps*, or Abs, a mean place, the ancient capital

capital of the Helvii; *Argentiere*, a little town, eight leagues south-west of Privas, and six west north-west of Viviers; and *Privas*, a town of 2,500 inhabitants, six leagues north north-west of Viviers, besieged and taken by Louis XIII. A. D. 1629.

Annonay, the capital of Upper Vivarais, a small town containing 5,550 inhabitants, noted for its paper manufactures, at the foot of a ridge of hills, on the Deume, near the north extremity of the province, nine leagues south south-west of Vienne. Upper Vivarais abounds in cultivated hills yielding grain, fruit, and chesnuts. In the mountains are vestiges of volcanos.

Tournon, an inconsiderable town, formerly called Taurodunum, containing 3,419 inhabitants, near the Rhone, at the foot of a hill on which is a castle. Here the Jesuits founded their first convent; and a military school was established in 1776. It is three leagues north of Valence, and 15 north of Viviers.

Puy, the birth-place of Guill. Tardif, and a considerable manufacturing town, containing a cathedral, several churches and convents, and 16,000 inhabitants, near the centre of a diocese of the same name, on a hill bathed by the Borne, not far from the source of the Loire, 18 leagues north north-west of Viviers, 58 north-east of Toulouse, and 100 south of Paris. The seat of several councils, and formerly a bishop's see, it is built in the form of an amphitheatre, at the junction of three vallies watered by rivulets, and covered with vineyards and seats. There are three principal routes to Puy, viz. that of Auvergne, that of Languedoc, and that of Lyon. The cathedral merits the notice of a traveller. Its principal manufactures are lace, woollen-stuffs, cloth, pins, &c.

Polignac, a small country town and marquisate, on an eminence a few miles from Puy, and not far from the Loire, near the border of Auvergne. Its castle is of great antiquity.

Monistrol, Monasteriolum, a little town where the bishop of Puy had a pleasant seat, seven leagues north north-east of Puy, between two hills,

a league from the Loire, near the border of the province. There are lead-mines in its neighbourhood. *Lignon*, *Verzillac*, and *Ysengeaux*, are little towns in the diocese of Puy.

11. FOIX.

St Foix, a small province including Dounezan and the valley of Andorre, is bounded on the north and east by Languedoc, on the south by Roussillon and the Pyrenees, on the west by Gascogne; lying between 42° 25′ and 43° 20′ N. latitude, and between 1° 15′ and 2° 40′ E. longitude; being 60 miles from north to south, and towards the southern boundary 30 from west to east, but northward its breadth is 15—20 miles.

The *Arriege*, whose source is on the confines of Roussillon, traverses the county of Foix from south to north, and loses itself in the Garonne, a mile above Toulouse.

Foix, anciently governed by its own counts, and united to the crown of France A. D. 1607, is divided into Upper and Lower. The former, mountainous and barren, produces wood and pasturage. The latter, more level and tolerably fertile, yields grain, fruits, and wine; and both abound in mines, mineral-waters, and natural curiosities.

Towns, &c.—*Foix*, Fuxum, the capital, is an ancient, small town, containing an Augustine abbey and 3,600 inhabitants, at the foot of the Pyrenees, on the left bank of the Arriege, with a castle on a rock commanded by two adjacent hills, 15 leagues south south-east of Toulouse. Carlat, near Foix, is the birth-place of Bayle.

Tarasçon, a little manufacturing town, almost consumed by fire in 1701, on the Arriege, in an indifferently fertile territory, three leagues above Foix. There are iron forges in its neighbourhood; it contains 1,300 inhabitants.

Ax, or Acqs, an inconsiderable town, noted only for its hot waters, which are sometimes called the baths of Usat, near the south-east extremity of the country. It contains 1,500 inhabitants.

Pamiers, Apamiae, and Pamia, the capital of Lower Foix, and formerly a bishop's see, a small, indifferently built town, containing three parishes, seven convents, and 3000 inhabitants, in a fertile and agreeable tract on the right bank of the Arriege, seven leagues north of Foix, and 12 southward of Toulouse. This place suffered extremely in the religious wars. In its vicinity is a mineral spring impregnated with iron, and used for the gout and obstructions.

Mazeres, a village in the 13th century, now a town containing 1500 inhabitants, a few leagues north of Pamiers. Being fortified, it was defended by the Huguenots till 1629, when they were compelled to submit, and its fortifications were razed.

Saverdun, a small town, formerly fortified, and noted for being the birth-place of Pope Benedict XII., on the Arriege, a few miles westward of Mazeres. The lower part of the town is better built and more populous than the upper.

Maz d'Azil, a town containing 400 inhabitants, on the Rize, four leagues west south-west of Pamiers. It owes its origin to a Benedictine abbey. Before the repeal of the edict of Nantes, its inhabitants, being protestants, fortified it, and kept possession of it till the year 1629.

Lezat, a little town, with an abbey of the order of Cluny, founded about A. D. 840, three leagues from Rieux.

Bolbonne, or Balbonne, a rich Cistercian abbey, at the conflux of the Arriege and Lers.

Querigut, or Guerigu, an inconsiderable town with a fort, formerly a barrier of Upper Languedoc, eleven leagues south-east of Foix, in the hilly district of Dounezan, separated from the county of Foix by a ridge of mountains.

The valley of *Andorre*, four leagues in length and three in breadth, rich in pastures and iron mines, and watered by several rivulets, contains *Ourdines* and other villages.

12. ROUSSILLON.

Roussillon, Ruscinonensis Comitatus, so called from its ancient capital Ruscino, of which no vestige remains, is separated from Languedoc by the less Pyrenees, on the east is bounded by the Mediterranean, on the south is divided by the Pyrenean Mountains from Catalonia, and on the west it approaches Cerdagne and St Foix; lying between 2° and 3° 20′ east longitude, and between 42° 25′ and 42° 55′ north latitude; being 11 leagues from north to south along the coast, but not exceeding 5–8 in the inland and western parts of the country. Its greatest extent from west to east is 20 leagues. This province, almost environed by mountains, and watered by the torrents Tet and Tech, produces grain, grapes, olives, fruits, and pastures. The soil, in general, is calcareous; much of it is flat and stony, dry and barren; but the watered vallies are fertile. Of the mountains the most elevated are those of Massane and Canigou, the latter of which is said to be 1440 toises above the level of the sea. There are several famous hot baths, in the most considerable of which the degrees of heat are as follows:—At Village des Bains the heat of the waters is 57½ degrees of Fahrenheit's thermometer; at Oleth 70½ degrees; at Vernet 48 degrees; at Molitz 33 degrees; at Nossa 20 degrees; and at Nyer 19 degrees.

Rousillon was successively occupied by the Romans, Visigoths, Saracens, Spaniards; Louis XV. took possession of it A. D. 1642, and it was formally ceded to France A. D. 1659 by the peace of the Pyrenees. It contains 1680 square miles, and 190,000 inhabitants.

Towns, &c.---Perpignan, in the middle age Perpiniacum, founded in the beginning of the 10th century, is the capital of the province, an indifferently built and regularly fortified town, and formerly a bishop's see; containing an university established in 1349, a large Gothic cathedral, four parishes, 13 convents, several hospitals, and 11,000 inhabitants; partly on an eminence, and partly in a plain, on the right bank of the Tet, about a league from the sea-coast; 12 leagues southward of Narbonne, 35 south south-west of Montpellier, 40 south-east of Toulouse, and 170 south of Paris. It is defended by a strong citadel. Its manufactures are cloth, lace, and iron; and its wine is esteemed.

Elne, Helena, a little, old, decayed town, founded on the ruins of Illiberis, on an eminence bathed by the Tech, two leagues south of the capital. This place was formerly a bishop's see, and was destroyed in 1285, 1474, and 1641.

Port Vendres, Portus Veneris, a little, narrow harbour, almost environed by hills, and defended by Fort St Elme, six and a half leagues south south-east of Perpignan.

Collioure, Caucoliberis, a mean town, consisting of one street inhabited by fishermen, half a league from Port Vendres, and six leagues south of Perpignan, at the foot of a mountain.

Prats de Molo, or Moillou, a little, irregularly built town, in the form of an amphitheatre, commanded by Fort de Garde, on the Tech, among the Pyrenees, four leagues west south-west of Arles.

Arles, Arulæ, an inconsiderable town, with a rich Benedictine abbey, on the Tech, at the foot of Mount Canigou, seven leagues south-west of Perpignan, aad noted for its mineral and hot springs.

Ceret, a well built little town, with a considerable suburb, on the Tech, at the foot of the Pyrenees, and a few miles eastward of Arles. This place is noted for its high bridge of a single arch. It contains 2,382 inhabitants.

Ille,

Ille, a neat, well built town, containing upwards of 1500 inhabitants, on the Tet, westward of Perpignan, near the extremity of a plain.

Salses, Salsulæ, an open village, near which is an old fort built by the Emperor Charles V. on the border of Languedoc, commanding the great road from Perpignan to Narbonne, between the mountains and Lake Salses or Leucate. This place was taken by the French A. D. 1639, by the Spaniards in 1640, and again by the French in 1642. At no great distance are some houses, the miserable remains of Salsulæ.

Rivesaltes, Ripæ Altæ, a considerable market town containing 1900 inhabitants, and famous for its muscadine wine, on the Egli, two leagues north of Perpignan.

Ville Franche, a little town on the rapid Tet, between two high mountains, nine leagues west south-west of Perpignan. It is the principal place of the district of Conflans, or the Viguerie, composed of hills and fertile vallies.

Prades, a handsome little town, of 2,332 inhabitants, in a delightful plain watered by the Tet, a few miles eastward of Ville Franche. Its manufactures are woollen caps for the Levant, and cloth of different qualities. At some distance is the abbey of St Michel de Coxa, one of the most considerable in the province.

Mont Louis, a small town defended by a strong citadel, on an eminence among the Pyrenees, 14 leagues south-east of Foix, and as far south-west of Perpignan, near the road from Roussillon to Cerdagne. This town and citadel were built by Louis XIV. on a part of Cerdagne ceded to France in 1660.

Bellegarde, a strong fortress, consisting of several regular bastions, constructed for the defence of Col de Pertuis, a difficult pass, between Roussillon and Catalonia, six leagues south of Perpignan. This place, often taken and retaken, was finally ceded to France in 1794.

Cerdagne Francaise, noted for its warm baths, is a hilly district consisting of 15 square leagues.

13. NAVARRE AND BEARN.

Navarre and *Bearn* are bounded on the north by Gascogne, on the east by Bigorre, on the south by the Pyrenees, and on the west by Labour.

Navarre is situate partly in France and partly in Spain, and divided into Upper and Lower Navarre. The former belongs to Spain, and the latter to France.

Lower Navarre, annexed to the crown of France A. D. 1620, lies westward of Bearn, between 42° 55′ and 43° 25′ north latitude, and between 1° 35′ and 0° 50′ west longitude, being 11 leagues in length and 5–7 in breadth. This territory, in general, is mountainous and barren. The hills contain mines of copper, iron, &c. and the vallies yield fruits and excellent pastures. It consists of five districts, viz. Amix, Cize, Baigorri, Arberou, and Ostabaret.

St Jean de Port, the capital of Cize, is a town consisting of one street and 900 inhabitants; nine leagues south south-east of Bayonne, 12 north-east of Pampeluna, and 160 south south-west of Paris. It is situate in a deep valley, watered by the Nive a small stream that originates in the Pyrenees, proceeds north-west through Navarre, and falls into the mouth of the Adour at Bayonne. A citadel on an eminence commands the road along this valley or defile into Spain. In the adjacent hills are mines of iron.

Irissary, a mean village, in a canton of the same name, north of St Jean, and eastward of the mountains of Baigorri which form the common boundary between Navarre and Labour.

St Stephen, a town composed of 100 houses, in the valley of Bagorri, between Cize and Upper Navarre.

Ostabat, a village in the valley of Ostabaret, to the eastward of St Stephen, near the Bidouse.

St

St Palais, Oppidum Sancti Pelagi, a small town of 1000 inhabitants, in Pays de Mixte, or Amix, on an eminence bathed by the Bidouse, a small stream that traverses the eastern part of Lower Navarre and loses itself in the Adour. It is six leagues north north-east of St Jean de Port, and 154 south south-west of Paris.

The populous territory of *Bearn*, so called from Beneharnum, a town entirely destroyed by the Normans, lies between 42° 35′ and 43° 40′ north latitude, and between I° west and 0° 5′ east longitude, being 16 leagues in length and 10–15 in breadth.

In this mountainous country are some fertile and well cultivated tracts. The eminences are covered with vines, and the vallies with rich pastures. The mountains contain mines of copper, lead, and marble, and exhibit a variety of magnificent scenery consisting of naked rocks, precipices, woods, meadows, deep vallies, and abysses. Two rapid streams, viz. Gave de Pau, and Gave d'Oleron, run from south-east to north-west, nearly parallel to one another, and lose themselves in the Adour. The principal products of Bearn are wine, flax, and a species of Indian corn.

Towns, &c.—*Pau*, Palum, the capital, is an open, tolerably built, manufacturing town, and the birth-place of Henry IV.; containing an university founded A. D. 1722, an academy of sciences instituted in 1720, six convents, two hospitals, and 8,600 inhabitants, situate on an eminence in a valley, bathed by the Gave de Pau, 45 leagues south of Bourdeaux, and 150 south south-west of Paris. The castle, in a romantic site, on the brow of a rock, though now in a state of decay, is still habitable. To the westward there is a succession of comfortable farm-houses and well inclosed farms.

Lescar, Lascura, a small town, and formerly a bishop's see, divided into upper and lower, containing a cathedral, a palace, and a college of Barnabites, on the Pau, a league north-west of the capital.

Nay,

Nay, a small manufacturing and trading town, and the birth-place of Abadie, five leagues from Pau, in an agreeable tract watered by the Gave de Pau; consumed by fire in 1545, and afterwards rebuilt, it contains about 2000 inhabitants.

Morlas, formerly the residence of the princes of Bearn, now a mean town, a few miles north-east of Pau, near the source of the rivulet Luny.

Orthez, an irregular but tolerably built town, containing four convents and 6,700 inhabitants, on a declivity bathed by the Gave de Pau, near the north-west border of the province, ten leagues north-west of Pau. In it was a protestant university that subsisted till the reign of Louis XIV. On an eminence above the town are the ruins of a fort.—The country south-east to Pau is mostly level, well cultivated, and covered with vines. The road westward to Bayonne lies across a hilly tract; but the height of the Pyrenees is greatly diminished.

Sauveterre, an inconsiderable place, agreeably situate on an eminence, near the Oleron, a few leagues south-west of Orthez.

Navarreins, Navarentium Civitas, a little walled town in a fertile plain, seven leagues westward of Pau, and watered by the Oleron. It was built by Henri d'Albert King of Navarre.

Oleron, a small, populous town, with two suburbs, and formerly a bishop's see, on a stream of the same name, formed by two rivulets, seven leagues southward of Pau. This town was destroyed by the Saracens and Normans, and afterwards rebuilt. It is a place of little trade, and contains 5,158 inhabitants.

Aiguescaudes, a town near the south-east extremity of Bearn, a league from Laruna, in the pleasant valley of Ossau. Here is an excellent hot mineral spring impregnated with alum, sulphur, and nitre, used for inward disorders and for wounds.

Escot, a populous place, noted for its cold mineral springs, in the valley of Asp watered by a torrent of the same name.

Lanne, a place of little note, on the rivulet Vert, in the valley of Bareton, near the confines of Soule. Its environs are covered with woods and pastures.

14. GUIENNE AND GASCOGNE.

The provinces of *Guienne aud Gascogne* form the most extensive government in the kingdom, and are bounded on the north by Angoumois, Limosin, and Auvergne, on the east by Auvergné and Languedoc, on the south by the Pyrenees, on the west by the Bay of Biscay ; lying between 42° 35′ and 45° 40′ N. latitude, and between 1° 40′ W. and 3° 20′ E. longitude. This government extends along the coast 53 leagues from north to south, and 66 under the meridian of Auch. Its breadth near the south and north boundaries is 50, and towards the middle 80 leagues from west to east.

The principal rivers are the Garonne and Dordogne, already described. These rivers, in their progress westward, are augmented by many streams. The Tarn, the Lot, the Drot, the Baise, and the Giers, fall into the former ; and the latter receives the Vesere, the Lille, &c. The origin of the Adour is in the mountains of Bigorre, near Tremoula, and its termination in the ocean below Bayonne, after a circuitous course of 45 leagues.

The soil of the interiour level districts, especially of the vale of the Garonne, is fertile, yielding abundance of grain, wine, fruits, and pastures. In the mountains are mines of copper, coal, and quarries of marble. This country was transferred from the Visigoths to the French after the battle of Vouile, in 507. It was sometime governed by Dukes, who were independent sovereigns, until Charlemagne compelled them to do homage. This prince erected Aquitania into a kingdom in favour of his son. Guienne and Gascogne, the most considerable provinces in that

that kingdom, were entrusted to governours, who soon became independent. Two distinct states were formed, the one subject to the Gascons, and the other to the Dukes of Aquitania Secunda, afterwards, A. D. 845, called Dukes of Guienne. In this situation they remained until the year 1070. In process of time they fell to Louis VII. king of France, by his marriage with Eleonore heiress of the last Dukes of Guienne, and soon after to Henry II. king of England. The English kept possession of it until they were expelled by Charles VII.

This government is divided into upper and lower. The latter includes Bourdelois, Perigord, Agenois, Condomois, Bazadois, Landes, Guienne Proper, with the districts of Soule and Labour. The former comprehends Quercy, Rouergue, Armagnac, Comminges, Conserans, and Bigorre.

Guienne Proper contains Bourdelois, Medoc, the capitalat of Buch, and the territory Entre Deux Mers.

Some geographers divide this government into two provinces, viz. Guienne and Gascogne, containing 17,680 square miles, and 2,500,000 inhabitants.

Guienne, an appellation derived from Aquitania, lies northward of Gascogne, between 44° and 45° 40′ N. latitude, being 36 leagues from north to south, and 72 from west to east. It is subdivided into six parts, viz. on the west Bourdelais, on the north Perigord, on the east Rouergue, on the south Bazadois, in the centre Agenois and Quercy.

The soil of Bourdelois, the most considerable division, is partly light and sandy, and partly fertile. Its principal products are chesnuts, figs, and wine.

Bourdeaux, or Bordeaux.—Burdigalia, the capital, is an archbishop's see, a large, inelegantly built, flourishing city, in the form of a crescent, with strait and narrow streets, surrounded by an old wall, and defended by three forts, on the left bank of the Garonne, 17 marine leagues above its mouth. Besides an academy of belles lettres, it contains an

academy for painting, sculpture, and architecture, an university founded in 1441, a mean Gothic cathedral, 13 parish churches, many other religious houses, and upwards of 80,000 inhabitants. The handsomest parts of the city are the Place Royale near the harbour, and the suburb of Chartreaux. The theatre is a magnificent edifice. The citadel was greatly improved by Louis XIV.; but the ramparts are ruinous, and the other forts are of no importance. It is the birth-place of the poet Ausonius, Montesquieu, Michel de Montagne, &c. It has several suburbs, and its foreign trade is considerable. The exports are wine, brandy, fruit, resin, pepper, honey, cork, &c. The tide flows up to the city. There are some remains of Roman antiquities, viz. of an amphitheatre, which forms an oval 227 feet long and 140 broad, Gallien's palace, a temple, &c.

Esparre, a little town 12 leagues north north-west of the capital, between the sea and the Garonne, in a peninsular marshy territory called Medoc, neither fertile nor populous. At the extremity of this peninsule, on a rock adjacent to the mouth of the river, stands the tower of Cardouan, a pyramidal edifice 175 French feet high, and 21 toises 5 feet in diameter at the base, forming an excellent pharos.

Teste de Busch, a little market town in the capitalat of Busch, on the harbour of Arcasson, 11 leagues south-west of the capital. The soil of *Landes de Bourdeaux*, inland from Busch, is sandy and uncultivated.

St Pol en Born, an inconsiderable place near the sea-coast, 10 leagues south of Busch, in a tract partly marshy, and partly covered with pines.

Cadillac, a little town, containing a church, a castle, and a convent, on the right bank of the Garonne, seven leagues south south-east of the capital, containing about 1,200 inhabitants.

The district *Entre-Deux Mers*, or land between two seas, lies between the rivers Garonne and Dordogne, of a triangular form, containing Artigues, Cenon, Floirac, with other market-towns and villages. It is fertile in grain, wine, fruits, and pastures.

Libourne, a small but populous trading-town, containing 8000 inhabitants, advantageously situate at the conflux of the L'Ille and Dordogne, opposite to Fronsac, five leagues north-east of the capital, and 120 south south west of Paris. Its manufactures are cordage, glass-ware, &c.

Fronsaides, a fruitful tract at the junction of the Ille and Dordogne, opposite to Libourne. Its principal town is Fronsac Coutras, a market-town, containing 3000 inhabitants, nine leagues north east of the capital, at the conflux of the Lille and Drome, whose united streams fall into the Dordogne. In its vicinity the allied army was defeated by Henry IV. A. D. 1587.

Culzac, a market-town in a district yielding good wine and pastures, four leagues north north-east of Bourdeaux, on the right hand of the Dordogne.

Bourg, a little trading town with a convenient port, four leagues north of the capital, and half a league from the confluence of the Dordogne and the Garonne.

Blaye, Blavia, an old and small town, containing 3580 inhabitants, divided into upper and lower, and defended by a citadel on a high rock, and four bastions, on the Garonne, below the influx of the Dordogne. Its port is frequented, and the river here is 1900 toises broad. All ships going up to Bourdeaux deposit their arms and cannon at Blaye, and take them up on their return. The adjacent district, covered by a marsh in 1730, has been drained, and is become fruitful.

Braud and Marsillac, two inconsiderable places north of the Garonne, in the indifferently fertile district of Vitrezai.

Perigord, a territory united to the kingdom of France by Henry IV. is about 25 leagues in length and 20 in breadth, divided into upper and lower, the former to the west and the latter to the east. It is watered by the Dordogne, Vezere, L'Isle, Dronne, and Upper Vezere. The mountains contain mines of iron; the plains, along the rivers, are fertile;

tile; the soil in many parts is stony, yielding wood and pastures. A great proportion of the country is uncultivated.

Towns, &c.—Perigueux, Petricordium, or Civitas Petricoriorum, the capital of Perigord, and formerly a bishop's see, is an ill built town divided into two parts, the one called la Cité and the other la Ville, containing a cathedral, four convents, an hospital, and 6000 inhabitants, on the L'Isle, 18 leagues south-west of Limoges, 16 south-east of Angouleme, 25 north-east of Bourdeaux, and 96 southward of Paris. There are some remains of Roman antiquities, viz. of an amphitheatre, a temple of Venus, &c.

Bergerac, formerly Braierac, composed of two small trading towns, separated by the Dordogne, containing 8000 inhabitants, in an agreeable plain, ten leagues south south-west of Perigueux, and 19 east of Bourdeaux. The fortifications of this place were demolished in 1621. Its manufactures are all sorts of steel and iron, hardware, paper, &c.

Exideuil, six leagues north-east of Perigueuz, on an eminence bathed by the rivulet Loulour, near the Vezere; *Calnide* on the Dordogne; *Bugo de St Sirq; Bourdeil* on the Dronne, with an old castle, four leagues north north-west of Perigueux; *Brantome* noted for a Benedictine abbey, a few miles above Bourdeil; *La Force* in an agreeable tract, near the Dordogne, a few miles below Bergerac, are small market towns in Upper Perigord.

Sarlat, a mean town with little trade, containing 6000 inhabitants, in a bottom between two hills, one-half league from the right bank of the Dordogne, 12 leagues south-east of Perigueux, and 106 from Paris. It owes its origin to a Benedictine abbey. Having been one of the fortified towns belonging to the Protestants, it was twice besieged in the 16th century, and a third time in 1652. It is the birth-place of Calprenède, the author of some tragedies and romances.

Domme, a little town defended by a castle on a rock bathed by the Dordogne, a few miles southward of Sarlat.

Eymet, a small town in a fertile tract watered by the Drot.

Terrasson, containing a Benedictine abbey, on the Vezere, eight leagues east of Perigueux.

Castillon, a small town on the west shore of the Garonne, seven leagues west of Bergerac, and 10 eastward of Bourdeaux. Near this place the French defeated the English A. D. 1451. In the river, opposite to Castillon, is the south end of a bank, extending northward, but admitting a channel of four fathoms between the bank and the shore to the point of land on which the town stands.

Agenois, one of the most fertile and agreeable districts in Guienne, is 20 leagues in length and 10 in breadth, watered by the Garonne, Lot, Dordogne, and Lez.

Towns, &c.—Agen, Aginnum Nitiobrigum, the capital of Angenois, a bishop's see, and the birth-place of Sulpitius Severus and Joseph Scaliger, is an ancient, considerable, ill built town, containing a cathedral, two parishes, several convents, and 10,000 inhabitants, pleasantly situate in a fertile plain on the right bank of the Garonne, 28 leagues south-east of Bourdeaux. It has little trade except in the products of its manufactures, viz. serges, cotton cloth, candles, &c.

Aiguillon, a trading town containing 7000 inhabitants, six leagues north-west of Agen, in a valley, at the influx of the Lot into the Garonne. In the year 1346 this place held out a long siege against John Duke of Normandy. A rich vale extends south-east to Agen.

Tonneins, a town consisting of two villages, on the Garonne, below Aiguillon.

Clerac, or Clairac, a little town pleasantly situate in a valley watered by the Lot, not far above Aiguillon, five leagues north north-west of Agen. It contains about 3000 inhabitants, and has some trade in tobacco, wine, and brandy.

Monheurt,

Monheurt, a town of little note, formerly fortified, below Aiguillon, on the opposite bank of the Garonne.

Marmande, a small town, with some trade in grain, wine, and brandy, below Monheurt, eight leagues from Agen. It contains 5000 inhabitants.

Quercy, a district of about 300 square leagues, diversified with hills, vallies, and plains, is divided into two parts by the river Lot. The level tracts yield grain, fruits, and wine; in the hills are mines of iron and coal.

Towns, &c.—Cahors, Divona and Cadurcum, the capital of Quercy, and a bishop's see, is an irregularly built town, with narrow streets, containing 11,700 inhabitants, partly against the steep side of a hill, in a peninsule formed by the Lot, 22 leagues north of Thoulouse, 41 east south-east of Bourdeaux, 22 south south-east of Perigueux, and 16 north-east of Agen. Its university, established A. D. 1332, was united to that of Thoulouse A. D. 1751. There are some remains of antiquity, viz. of an amphitheatre and aqueduct, in this place; and its environs yield abundance of grain and wine. The adjacent country is diversified with hills and vallies.

Figeac, originally a Benedictine abbey, founded by Pepin A. D. 755, and secularized by Paul III. now a little town situate north-east of Cahors, and 108 leagues southward of Paris. It was a place of some strength during the religious war; but falling into the king's hands A. D. 1612, its citadel and fortifications were demolished. It contains 6452 inhabitants.

Negrepelisse, a little town on the Aveyrou, four leagues north-east of Montauban. Its fortifications, constructed by the Protestants, were demolished A. D. 1621.

Gourdon, an inconsiderable town, on an eminence, with a Cistercian abbey, eight leagues north north-west of Cahors, and three from the Dordogne, containing 3700 inhabitants.

Souillac,

Souillac, noted only for a Cistercian abbey, on the Rorese near the Dordogne, north-west of Cahors.

Usseldun, Uxellodunum, a mean place, on an eminence almost insulated by the Dordogne.

Roquemadour, noted for a rich abbey, two leagues south-east of Souillac.

Cadenac, a little town on a steep rock, almost surrounded by the Lot, 10 leagues east north-east of Cahors.

Marsillac, a market town and abbey, a few leagues north-east of Cahors.

Montauban, Mons Albanus, a considerable, tolerably built, populous, trading town, and formerly a bishop's see, containing a cathedral, an academy of belles lettres established in 1752, and 22,000 inhabitants, on an eminence bathed by the Tarn, 14 leagues south of Cahors, 11 north of Thoulouse. It consists of three parts, viz. the Old and New Town, and a suburb called Bourbon on the other side of the river. In the year 1562, the inhabitants became Protestants, and fortified the town so strongly, that Louis XIII. besieged it without success, A. D. 1621 ; but it was reduced in 1629, and its fortifications were razed. The neighbouring country is uncultivated.

Moissac, an old trading town, containing about 9000 inhabitants, agreeably situate at the foot of a hill, a few leagues north-west of Montauban, near the mouth of the Tarn that falls into the Garonne. Its Benedictine abbey is now secularized.

Rouergue is a hilly district of a bad soil, producing little grain, but abounding in pastures and mines of iron, copper, alum, vitriol, sulphur, &c. It is watered by the Lot, the Tarn, and other smaller streams.

Towns, &c.—*Rodez*, Segodunum and Ruteni, the capital of Rouergue, and formerly a bishop's see, containing a cathedral with a high steeple, an abbey, six convents, and 6200 inhabitants, on an eminence

bathed by the Aveirou, environed by hills, near the centre of the district, about 30 leagues from Thoulouse, 60 east south-east of Bourdeaux, and 130 south of Paris. This town is indifferently built, and was never in the possession of the Protestants. Its manufactures are coarse draperies, pins, &c.

Milhaud, or Millau, Æmilianum, an ancient and inconsiderable town, containing five convents, and 5000 inhabitants, on the Tarn, eleven leagues south-east of Rodez. It was ruined in the religious war, and its fortifications were demolished A. D. 1629.

Pont de Camaraz, or Camarares, celebrated for its mineral waters, on the Dourdan two leagues from Vabres, among the mountains near the south-east extremity of Rouergue.

Nant, a little town with a Benedictine abbey, near the border of Gevaudan, 15 leagues south-east of Rodez. *Belmont*, containing upwards of 2,000 inhabitants, a few leagues south of Vabres.

Vabres, in the middle age Vabincum, and Castrum Vabrense, a small town and bishop's see, containing 3,000 inhabitants, at the conflux of two small streams that run north-west to the Tarn, 14 leagues south south-east of Rodez.

Ville Franche, Francopolis, built in the twelfth century, a town containing four convents, an hospital, and 9,000 inhabitants, on the Aveiron, eight leagues west of Rodez, and 11 east south-east of Cahors. There are copper-mines in its vicinity.

St Antonin, a little town with some trade in saffron and prunes, situate in a valley watered by the Aveiron, a river that traverses Rouergue from east to west.

Peyrusse, Petrucia, an inconsiderable town on an eminence, near the Diege, eight leagues north-west of Rodez, and four from Capdenac. On a neighbouring rock are the ruins of a heathen temple.

Cransac, a place noted for its excellent sulphureous mineral waters, in a fruitful tract. There are coal pits in its vicinity.

Sauveterre,

Sauveterre, a little town on the Zert, eight leagues south-west of Rodez.

Bazadois is a district divided into two parts by the river Garonne. One of these tracts lying south of the river is dry and sandy; the other is fertile.

Towns &c.—Bazas, Civitas Vasatica and Cossio, the capital of Bazadois, and formerly a bishop's see, is a mean and thinly inhabited town, on an eminence, three leagues south of the Garonne, and 13 south south-east of Bourdeaux, containing 4215 inhabitants.

Langon, or Langin, a little town noted for its excellent wine and brandy, on the south bank of the Garonne, below the influx of the Drot, a league above Cadillac, and eight south south-east of Bourdeaux. The tide reaches to this place.

Reole, Regula, a small trading town of 4000 inhabitants, and the seat of the parliament of Bourdeaux from the year 1676 to 1689, in a plain on the right hand of the Garonne, 12 leagues above Bourdeaux. An abbey was founded here A. D. 970.

GASCOGNE, Vasconia, the south division of the government of Guienne, is bounded on the north by Guienne, on the east by Languedoc, on the south by the Pyrenees, and on the west by the ocean; lying between 42° 35′ and 44° 30′ N. latitude, and between 1° 40′ W. and 1° 20′ E. longitude, being 50 leagues from west to east, and 20—30 in breadth.

This province derives its name from the Gascons, or Vascones, a tribe in Spain that descended from the Pyrenean Mountains, toward the conclusion of the sixth century, and took possession of Novempopulani. After their reduction by Theodebert in 602, they revolted several times, but were finally subjected by Charlemagne.

Gascogne is composed of the following districts, viz. Armagnac in the centre; Bigorre, Soule, and Labour on the south; Chalosse and Landes

on the west; Condomois and Lomagne on the north; on the south Comminges and Conserans.

The principal rivers are the following: The *Adour*, that originates in the Pyrenees, near the south-east extremity of Bigorre, flows north north-west almost to the north extremity of Chalosse, and thence south-west to Bayonne, below which, after a course of 45 leagues, it falls into the ocean. In its progress it is augmented by many considerable streams, and begins to be navigable two leagues above St Sever. In the eastern part of the country, the Save, Gimone, Arrats, Gers, Baize, and Losse, that descend from the heights of Nebouzan, run northward to the Garonne. The *Neste* rises near the south border of Gascogne, and falls into the Garonne below St Bertrand. The source of the *Gave* is near the southern limit of Bigorre, and the direction of its course is northward through that district and Bearn to the Adour.

Armagnac, divided into upper and lower, or into Armagnac Proper and Estarac, is a country consisting of hills, vallies, and fruitful plains, yielding grain, wine, fruits, and pastures.

Towns, &c.—*Auch*, anciently Augusta Ausciorum, Climberris, Elusaberris, the capital of Armagnac and of Gascogne, and formerly an archi-episcopal see, is a well built city containing 6000 inhabitants, on the declivity of an eminence bathed by the Gers, 15 leagues west of Thoulouse, 43 south of Bourdeaux, and 140 south south-west of Paris. Some of the streets are broad, straight, and well paved, but the ground is uneven. The neighbouring country consists of lime-stone hills, with narrow vallies which yield abundance of wine and figs.

Castelnau, a little town eight leagues south of Auch, on the Gers, in the fertile valley of Magnoac.

Barcelonne, or Barzalone, a small town 14 leagues west of Auch, near the west border of Armagnac, opposite nearly to the influx of the Larisie into the Adour.

Vic de Fizensac, Fidentia, a little town on the Bedouze, five leagues west north-west of Auch.

Eause, Elusa, a small decayed town in the fruitful district of Eausan, nine leagues north-west of Auch, on the Gelise, near the ruins of Elusa the ancient capital of Novempopulania.

Mirande, a town founded in 1289, containing 1500 inhabitants, in Lower Armagnac, on the Baise, six leagues south south-west of Auch, and 146 south-west of Paris. It is small and ill built, on the declivity of a hill, in a valley opening south and north towards the Pyrenees. The adjacent country, planted with towns, villages, and detached houses, is delightful and finely cultivated; the hills are clothed with woods; the vallies are open and cheerful; the roads are excellent.

Bigorre is a district 18 leagues long and three broad, at the foot of the Pyrenees by which it is separated from Aragon. Watered by the Gave, Adour, &c. it yields wine, rye, barley, and excellent pastures.

Towns, &c.—Tarbe, or Tarbes, Talva, formerly a bishop's see, and a neat town, consisting of one long well paved street, containing a cathedral, two convents, an hospital, and 6700 inhabitants, defended by a fort, in a plain, on the site of the ancient Bigora, and on the left bank of the Adour, 14 leagues south south-west of Auch, 10 north-west of St Bertrand, and 45 from Bourdeaux, almost opposite to the highest part of the Pyrenees. The road thence westward to Pau passes over low hills covered with heath.

Lourde, the sole village in the valley of Lavedan, watered by the Gave, with an old castle on a rock, five leagues south south-west of Tarbe, and four from Bagneres.

Bagneres, Aquensis Vicus, a town containing 6000 inhabitants, eight leagues southward of Tarbe, in the valley of Campan, watered by the Adour, at the foot of Pic-du-Midi, one of the highest Pyrenees, and 1506 toises above the sea. This place is famous for its mineral hot and

and cold springs, which were known to the Romans. The environs are agreeable and romantic.

Campan, a market town in the valley of the same name, seven leagues westward of St Bertrand, among the Pyrenees. In its neighbourhood are marble quarries.

Barreges, an inconsiderable place of about 60 houses, in a valley covered with excellent pastures, south of Campan, at the foot of Mount Tormalet. Its environs abound in warm baths and natural curiosities. From this place the principal valley of Barreges stretches southward to Gavarnic, a market town at the foot of the Marbore, one peak of which, called Montperdu, is the highest of the Pyrenees, being 1763 toises above the level of the sea. At the base of this mountain, the Gave falls 1266 feet, forming the highest cataract in Europe.

St Sever de Rustan, a little town that owes its origin to a Benedictine abbey, on the Arros, or Rousse, two leagues from Tarbe.

Comminges is a district 18 leagues in length, and six in breadth. The lower part is fertile in grain; the upper part in wood and pasture.

Towns, &c.—*St Bertrand*, Lugdunum Convenæ, the capital of Comminges, and formerly a bishop's see, is a little town founded A. D. 1100 by Bertrand bishop of Comminges, on an eminence in a valley, near the rapid Garonne, opposite to the ruins of Convenæ that was a flourishing town in the fifth century, 16 leagues south of Auch, and 12 south-east of Tarbe. The scenery round St Bertrand is grand and picturesque.

St Beat, Oppidum S. Beati, a little town built of marble, a few leagues southward of St Bertrand, in a narrow valley between two hills, at the influx of the Pique into the Garonne.

Mauleon, an inconsiderable place of 1,010 inhabitants, in the valley of Barousse, on a small stream that falls into the Garonne near St Bertrand. There is another town of the same name in Soule, and a third north-west of Auch.

Arreou, bathed by the Neste in the valley of Aure; and *Sarrancolin*, below Arreou, south-west of St Bertrand; are two places of little note.—There are fine marble-quarries in the neighbourhood of Sarrancolin.

St Gaudens, Fanum S. Gaudentii, a trading and flourishing town, containing 4,100 inhabitants, the capital of Nebouzan a hilly tract in Comminges, and the birth-place of Remond founder of the order of Calatrava, on the Garonne, three leagues north-east of St Bertrand.

Montrejeau, Mons Regalis, a little trading town in Nebouzan, on an eminence bathed by the Garonne, a few miles northward of St Bertrand, below the influx of the Neste.

Muret, Murettum, a town containing 3,100 inhabitants, on the Garonne below St Gaudens, three leagues above Thoulouse. In its vicinity, Peter of Aragon, who besieged this place, was defeated and slain A. D. 1213.

Lombes, Lumbaria, a little town, and formerly a bishop's see, containing 1,100 inhabitants, on the Save in Comminges, seven leagues west north-west of Muret, eight south-east of Auch, eleven south-west of Thoulouse, and eight north-west of Rieux.

Aurignac, a trading town containing 1,300 inhabitants, on the Louge.

Conserans, is a district consisting of hills, vallies, and plains, yielding little grain, but abundance of wood and pastures.

St Lizier, Fanum S. Licerii, anciently called Austria, a market town, on an eminence near the Salat, 16 leagues south of Thoulouse, seven west south-west of Pamiers, 21 south south-east of Auch, near the foot of the Pyrenees.

Conserans, formerly the capital of this district, now a mean place, on an eminence, four leagues southward of St Lizier.

St Girons, a market town, containing 2,504 inhabitants, and noted for its annual fairs, on the Salat, a league above St Lizier.

The

The valley of *Aran*, south-west of Conserans, contains *Veille* and other villages.

The district called *Pays des Quatre Vallées*, four leagues long, and three broad, is watered by the Gers, and yields grain and pastures. The valley of *Neste* is watered by a river of the same name, that loses itself in the Garonne. The valley of *Barousse*, and that of *Aure*, at the foot of the Pyrenees, are noted for their pastures. The latter contains Arreou and Sarrancolin already mentioned. The valley of *Magnoac* is traversed by the Gers.

Lomagne, Leomania, is a district eight leagues in length, and six in breadth. Its fertile soil, watered by the Garonne, produces grain, wine, fruits, and pastures.

Lectoure, or Leytoure, Lactora, and Lecturum, a walled town, was a bishop's see, and defended by a castle. It contains 5,400 inhabitants, in Lomagne, on a rising ground bathed by the Gers, and accessible on one side only, five leagues east of Condom, six southward of Agen, and eight north of Auch. Here many ancient inscriptions have been discovered. In the castle, the brave but unfortunate Mareschal de Montmorenci was confined, after the battle of Castelnaudari A. D. 1632. The situation of this place is admirably calculated for defence, and the fortifications in many parts are yet entire. There is a fine country northward to the Garonne.

Isle-Jourdain, Castellum Ietium, a town containing 2,000 inhabitants, with a ruinous castle, in a fruitful territory, on the Save, eight leagues eastward of Auch.

Anvillar, on the Garonne; *St Clar*, on the Arats, three leagues north-east of Lectoure; and *Beaumont*, on the Gimone, four leagues south of Anvillar; are places of little note.

The

The lordship of *Riviere*, a fertile tract, contains *Verdun*, a small town on the Garonne, nine leagues south-east of Lectoure; *St Croix; Grenade;* and other inconsiderable places.

Layrac, or Leytrac, a little town with a priory, two leagues south of Agen in Lomagne, at the influx of the Gers into the Garonne. *La Plume* and *Caudecoste* are places of no estimation.

Condomois, is a fertile district south of the Garonne, watered by the Baise and Gelise.

Condom, the capital of Condomois, and formerly a bishop's see, a meanly built town, containing 7000 inhabitants, on the Baise, in a fruitful tract, nine leagues north north-west of Auch, and 30 south-east of Bourdeaux. This town owes its origin to a monastery secularized A. D. 1594. It is the birth-place of Scipion Dupleix, Blaise de Montluc, and M. Sabathier. It suffered greatly in the religious war, and has now little trade.

Nerac, the capital of the dutchy of Albert in Condomois, a well built manufacturing little town, containing 5,587 inhabitants, and formerly the residence of the kings of Navarre, on the Baise, which here becomes navigable, five leagues north north-west of Condom, three south of the Garonne, and four west of Agen. In the 16th century most of its inhabitants were Protestants, but in 1621 they surrendered to Louis XIII.

Barbaste, a little and agreeable town, pleasantly situate on the Gelise, about a league from Nerac.

Les Landes is a level, sandy, barren, and thinly inhabited tract, yielding little grain, but abounding in forests, honey, and wax, north of Bayonne, between the river Adour and the sea-coast.

Aleqs, or Dax, Aquæ Tarbellicæ, the capital of Les Landes, formerly a bishop's see, and a walled trading town of a square form, containing 1400 inhabitants, on the Adour, nine leagues north-east of Bayonne, and

and 35 south south-west of Bourdeaux. It is defended by a castle with some fortifications in bad repair. It was demolished by the Saracens A. D. 620, and taken from the English by Charles VII. in 1451. It is noted for its annual fairs, its hot-springs, and natural curiosities. To the north is a tract of white loose sand on a bottom of adhesive earth.

Tartas, Tartasium, a small neat town, partly on an acclivity in the form of an amphitheatre, and partly in a plain, five leagues south-west of Mont de Marsan, 25 southward of Bourdeaux, and nine north north-east of Acqs. It contains upwards of 2000 inhabitants.

Marennes, *Cap-Breton*, &c. are inconsiderable places in Moransin or Pay de Marennes, a tract lying between the sea and the Adour, almost covered with pines and marshes.

Chalosse is an oval district bounded by Condomois, Armagnac, Bearn, and Les Landes.

Its sandy, but tolerably fertile, soil yields grain, wine, and pastures.

St Sever de Cap, a small tolerably built town, of 5844 inhabitants, and the capital of Chalosse, pleasantly situate on the Adour, seven leagues westward of Aire, eight eastward of Dax, and 34 south of Bourdeaux. This place owes its origin and name to a Benedictine abbey founded A. D. 993.

Hagenau or Hagelnau, an old mean town, near the centre of the district. Its wine is esteemed.

Aire, Adura, and Vicus Julii, a meanly built town, and formerly a bishop's see, partly on a declivity, and partly at the foot of a hill, on the Adour, near the eastern border of Chalosse, 15 leagues east of Dax, and 32 south of Bourdeaux. It suffered greatly in the religious war.

Mont de Marsan, a town well built, on an eminence A. D. 1120, containing 3000 inhabitants, at the influx of the Midouze into the Adour, near the western border of Chalosse, 25 leagues north west of Auch, and 11 north-east of Dax. It has some trade in grain.

Roquefort,

Roquefort, four leagues north-east of Mont-de-Marsan, and Villeneuve, are inconsiderable places.

Labour, Capudersis Tractus, is a small and indifferently fertile tract, yielding little grain or wine, but abundance of fruit.

Bayonne, Lapurdum, the capital of Labour, an ancient and considerable, well built town, and bishop's see, containing 13,000 inhabitants, in a bottom at the conflux of the Nive and the Adour, a league from the sea, and 42 leagues south south-west of Bourdeaux. It is divided into three parts, viz. the large town on this side the Nive, the small town between the Nive and the Adour, and the suburb of St Esprit on the other side of the river. Each of the two first is defended by a small fort. The suburb is well fortified, and a regular square citadel on an eminence commands the whole city. It carries on a considerable trade with Spain, but the harbour, though safe, is of difficult access. There is a charming promenade. The exports to Spain are woollen cloth, silks, cottons, ribbons, hard-ware, in exchange for wool, wine, oil, and Spanish American goods. To the north of Europe, the exports are wine, raisins, chocolate, &c. The country northward to Bourdeaux is covered with various kinds of heaths, cork-trees, pines, &c. and the sea is skirted with downs, which in some places produce excellent wine.

St Jean de Luz, a trading town, composed of two villages, on the opposite banks of the river Ninette, with a bad harbour for fishing barks, four leagues south-west of Bayonne, near the frontier of Spain. It contains about 4000 inhabitants. Not far hence lies the Island of Pheasants on the river Bidassoa, where the Pyrenean treaty was concluded A. D. 1659.

The district of *Soule*, lying between Bearn and Navarre, abounds in wood, pastures, and mineral springs.

Mouleon, the capital of Soule, a small town, containing 1000 inhabitants, among the Pyrenean mountains, on the Gave, fourteen leagues west of Pau, and 13 southward of Dax.

Lazaun, an inconsiderable place, near the south extremity of the valley of Soule.

15. SAINTONGE AND ANGOUMOIS.

The government of *Saintonge* and *Angoumois* includes the greatest part of both these provinces. Saintonge is bounded on the north by Aunis and Poitou, on the east by Angoumois, on the south by Guienne, and on the west by the ocean; lying between 45° 5′ and 46° 20′ north latitude, and between 1° 15′ west and 0° 10′ east longitude; being 22 leagues from north to south, and 10—12 from west to east. It abounds in grain, fruit, and excellent salt. The principal articles of trade are paper, horses, and iron.

Rivers —The *Charente* originates near the eastern border of Angoumois, flows north-west to Sivray in Poitou, thence south south-west to Angoulesme, and westward to Cognac, where it enters Saintonge, traverses this province, and, after a course of 40 leagues, falls into the sea opposite to the island of Oleron. The source of the *Boutonne* is in Poitou; the direction of its course is 14 leagues south-west through the northern part of Saintonge; and its termination is in the Charente, two leagues eastward of Rochfort.

Towns, *&c.* in Saintonge.—*Saintes*, Mediolanum Sanctorum, and Xaintes, the capital of Saintonge, formerly a bishop's see and the seat of five councils, is an ancient, indifferently built town, with narrow winding streets, at the foot and on the acclivity of an eminence bathed by the Charente, near the centre of the province, 14 leagues westward of Angoulesme, seven south-east of Rochfort, and 30 south south-west of Poitiers. It contains 10,000 inhabitants, and some remains of a Roman bridge, a triumphal arch, an amphitheatre, an aqueduct, &c. It is noted

noted for being the birth-place of Denis Amelotte. In its suburb is a rich Benedictine abbey founded A. D. 1049.

Taillebourg, in the middle age Talleburgus and Talcaburgus, an inconsiderable town with a castle on a rock bathed by the Charente, three leagues below, *i. e.* north of Saintes. Here the English were defeated by the French A. D. 1242.

Pons, Pontes, a handsome town divided into upper and lower, containing 4,000 inhabitants, partly on a declivity, and partly at the foot of an eminence, on the Suigne a small stream that runs northward to the Charente, four leagues south south-east of Saintes. This place was dismantled by Louis XIV. A. D. 1621, but is still noted for a mineral spring.

Barbesieux, a small manufacturing town, formerly walled, containing 1,984 inhabitants, with a mineral spring in its vicinity, seven leagues south-east of Pons and 18 north of Bourdeaux. The country is well wooded and finely diversified.

Tallemond, or Talmont, in the middle age Talemundum Castrum, formerly a walled, now an open market town, with the title of a principality, near the mouth of the Garonne, 10 leagues south of Rochfort, and six south south-west of Saintes.

Mortagne, above, *i. e.* a few leagues south-east of Talmont.

Tonnay-Charente, in the middle age Talniacum and Tauniacum, a small town and principality, with a castle, a Benedictine abbey, and a harbour, below the confluence of the Boutonne and Charente, a league above Rochfort, and 101 from Paris. It contains upwards of 2,000 inhabitants.

St Jean d'Angely, Angeriacum, formerly a considerable and well fortified, now a decayed town, containing 5,400 inhabitants, and famous for its excellent brandy, on the Boutonne, seven leagues north of Saintes. A Benedictine abbey was founded here A. D. 768. This place flourished in the hands of the protestants; but in 1621 the fortifications were

were razed, and the town deprived of its privileges. It is the birth-place of Henry II. of Bourbon-Condé.

Angoumois, so called from its capital, is bounded on the north and east by Poitou, on the south by Perigord, and on the west by Saintonge; lying between 45° 7′ and 46° 5′ north latitude, and between 0° 30′ west and 1° east longitude; being 10–20 leagues from north to south, and 14–22 from west to east. This country is nearly in the form of an irregular square, whose angles are in the direction of the cardinal points. Diversified with small hills, and of a chalky soil, it produces grain, fruits, and pastures, contains mines of iron and antimony, and is famous for its manufactures of paper.

Charente, the principal river, by a very winding course, waters almost every district.

The *Touvre* issues from a copious source in a rock, proceeds three leagues through a broken channel, and falls into the Charente at Angoulesme.

Towns, &c.—Angoulesme, Inculisma, the capital of Angoumois, and a bishop's see, is an old town containing 12 parishes, 2 abbies, 10 convents, an hospital, and 14,000 inhabitants, environed by a ruinous wall, on the summit of a hill, defended by a castle, near the Charente, 25 leagues south of Poitiers, 29 south-east of Rochelle, and 23 south-east of Rochfort. It is the birth-place of St Gelaise, Balzac, Ravaillac, &c. and is noted for four great annual fairs, and for its manufactures of coarse cloth, serges, paper, &c. Northward the country is partly wooded, and partly covered with vines.

Montbrun, or Montbron, an inconsiderable town eastward of Angoulesme, on the Tardouere, containing 500 inhabitants.

Rochefocaud, Rupes Fucaldi, a little town, and the birth-place of M. de Daillon, on the Tardouere, five leagues north north-east of the capital.

Jarnac, a noted market town containing 1,800 inhabitants, on the Charente, 7 leagues westward of Angoulesme and 105 south south-west of Paris. Near this place the Hugonots were defeated by Henry III. A. D. 1569; and under its walls the Prince of Condé was assassinated.

Cognac, Copriniacum, Campiniacum, and Conniacum, the birth-place of Francis I., the seat of several councils, a town containing 2,800 inhabitants, pleasantly situate in a fruitful tract watered by the Charente, six leagues south-east of Saintes, and seven west of Angoulesme. Its principal manufacture is delft ware, and it is famous for its fine brandy.

Aubeterre, a little manufacturing town, with an abbey, and several convents, on the Dronne, nine leagues south of Angoulesme, near the border of Perigord, containing 800 inhabitants.

16. AUNIS.

Aunis, Alnisium, a small province, is bounded on the north by Poitou, on the east and south by Saintonge, on the west by the ocean; extending along the coast from 45° 37′ to 46° 5′ north latitude, *i. e.* about 20 leagues, and six in mean breadth. This territory was formerly covered by the sea. The tract near the coast is marshy; but the interior part is dry and fertile, yielding good grain, wine, and pastures. The Charente on the south, and the Sevre on the north, are the principal rivers by which this country is watered.

Towns, &c.—*Rochelle*, in the middle age Rupella and Portus Santonum, the capital, a bishop's see, and the birth-place of Reaumur, Desaguliers, &c. is a considerable town, containing six convents, an academy of sciences established in 1732, an hospital, two suburbs, and 18,000 inhabitants, 38 leagues north of Bourdeaux, 28 south-east of Nantes, 69 south-west of Orleans, and upwards of 100 south south-west of Paris. It is regularly built, in a marshy site, with a good harbour of a narrow entrance,

entrance, defended by two towers, and has a flourishing trade. The circumference of its ramparts is about three miles. In the 16th century the inhabitants joined in the reformation, and fortified the town. In 1628 the town was reduced, and the fortifications were demolished; but in the reign of Louis XIV. these were repaired by Vauban. Its manufactures are delft ware, glass, refining of sugar, &c.

Rochefort, a town founded by Louis XIV. A. D. 1665, is regularly built and fortified, containing several churches and convents, an arsenal and magazines replenished with military stores, a royal marine academy, with an hospital of seamen, and 15,000 inhabitants, on the Charente, almost two leagues from the sea-coast, five from the mouth of the river, and six south-east of Rochelle. The entrance of the river is defended by several forts. The marshy environs have been dried by canals, so that the town is more salubrious than formerly. A fertile country extends to Marans.

Surgeres, a neat market town, north-east of Rochefort, and six leagues eastward of Rochelle, containing 1,400 inhabitants.

Brouage, a little, strong town, composed of five or six streets, in a marshy tract on the sea-coast, with a harbour, a few miles south of Rochefort. Near it is Fort Chapus on a rock, opposite to the island of Oleron.

Marennes, Marinæ, a sea-port, containing 4,600 inhabitants, in a marshy but fertile territory, between Brouage and the mouth of the Seudre, opposite to the south extremity of the island of Oleron, 10 leagues north north-west of Saintes. Salt and grain are the principal articles of trade. In 1588, Henry IV. observed concerning this place, that it is an island two leagues in circuit, environed by marshes, and intersected by canals, where one may live pleasantly in peace and securely in war.

Arvert and *Royan*, two inconsiderable places, in a peninsule formed

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by the Seudre and the mouth of the Garonne. Royan is the suburb of a town demolished by Louis XIII.

Tremblade, a small, well built, populous, trading town, on the left bank of the Seudre, in the district of Marennes.

Soubise, an old town on the Charente, containing 800 inhabitants, among whom are some opulent merchants of Rochefort, who have retired to this place on account of the salubrity of its site, a few miles below that town.

Isle Madame, at the mouth of the Charente, is defended by a battery of cannon.

Marans, a considerable market-town, among the salt marshes, on the Sevre, a league from the sea, and five leagues north-east of Rochelle, in the north-west corner of the province.

The Island of *Re*, or Rhe, Rhades, Insula Rea, and Reacus, lies opposite nearly to Rochelle and the mouth of the Sevre; separated from Oleron by a channel called Pertuis de Antioche, four leagues long and one and an half broad, it produces salt, wine, and excellent brandy, is well inhabited, and conveniently situate for trade. Besides *St Martin*, a little fortified town, it contains several villages, and 17,186 inhabitants. It is high water on this part of the coast, at spring tides, about 45 minutes past three o'clock.

Oleron, Uliarius, and Olario, is a fertile island six leagues long and two broad, yielding grain, wine, and salt, opposite to the mouths of the Charente and Seudre, 9,542 feet from Fort Chapus, and 68,425 feet from Rochelle. It contains *Bourg D'Oleron*, five other towns and villages, and 15,000 inhabitants. The light-house of Chaussiron stands on the north point of the island. There is a castle on the eastern coast, about north north-west of Brouage on the main. On the west side of the island there is a great bank, with a good road north of it, where ships may anchor in 3--7 fathoms. But, north of this road, the coast is rocky to the extremity of the island; the shoals also reach a great way from shore. To the south

of

of the road there is shoal water above two leagues, and half a league from the coast. At the south end of the island is a navigable channel called Pertuis de Maumasson; and at the north-end is Pertuis D'Antioche, a channel along the side of a sand, or shoal. Rhe and Oleron were subjected by Louis XIII.

Between Oleron and the mainland lies the islet of Aix whose fort protects the entrance into the Charente. This fort was demolished by the English in 1757, and again in 1761; but has been rebuilt. The island is four leagues north-west of Rochfort, and the same distance south south-west of Rochelle. The Longee sand is south-west two miles from the south-end of Aix, and one and an half mile from Oleron.—Each end of this bank is uncovered at low water; and on the west it has a bay with soundings of 3—5 fathoms.

17. POITOU.

Poitou, so called from the Pictone its ancient inhabitants, is bounded on the north by Bretagne, Anjou, Saumurois, and Touraine; on the east by Berri and Marche; on the south by Saintonge, Angoumois, and Aunis; on the west by the sea; lying between 46° 46′ and 47° 5′ N. latitude, and between 2° 20′ W. and 1° 5′ E. longitude; being 18—25 miles from north to south, and 30—45 from west to east, containing 100,000 inhabitants. The whole country is diversified with hills, gentle eminences, marshes, and plains,—containing mines of various metals, quarries of marble, &c.—and abounding in grain, wine, fruits, and pastures. The principal articles of trade are black cattle, mules, horses, and woollen-stuffs. The *Vienne*, a considerable stream, rises on the border of Limosin, and proceeds northward through the eastern parts of the province to Touraine. The *Sevre Niortoise*, from the hills above St Maixent, flows westward to the sea. Another river, called the *Sevre*, has its source near

near the centre of the province, and thence it runs north-west into Bretagne. The fountain of the *Lay* is several leagues south of Montagne, and the direction of its course is south-west to the sea, into which it falls near a long, narrow, and curved promontory opposite to the mouth of Sevre Niortoise. The *Clain* originates in the frontier of Angoumois, runs northward by Poitiers, and loses itself in the Vienne above Chatelleraut.

Since the 1436, Poitou has been a province of France. There are nine small ports, or harbours in it, the most considerable of which is that of *Les Sables d'Olonne*, where ships of 150 tons may enter. This province is divided into Upper and Lower.

Upper Poitou, or the eastern division of the country, is an agreeable and badly cultivated territory,—consisting of a poor and thin loam, in some tracts chalky, and in others calcareous.

Towns, &c.—Poitiers, Augustoritum, or Limonum Pictavorum, the capital, a bishop's see, and the seat of many councils, is a large, irregular, meanly built, and thinly inhabited town, containing a large Gothic cathedral, five collegiate churches, 22 parish churches, an university founded in 1413, 21 convents, several abbies, three hospitals, six gates, and 18,000 inhabitants; situate on a rising ground, in a fertile tract, at the conflux of the Clain and the Vienne; 23 leagues south south-west of Tours, 50 south-west of Orleans, 54 north north-east of Bourdeaux, and 65 south-west of Paris. It is the birth-place of St Maximin, St Hilaire, Pierre Berenger, Jean de la Quintinie, Augustin Nadal, &c. The principal articles of trade are gloves, woollen-stockings, silk-thread, and combs. There are some monuments of antiquity, viz. remains of an amphitheatre, an arch, a palace, aqueducts, &c. In the neighbourhood a battle was fought between the French and English A. D. 1356. A white chalky, and thinly peopled, country extends north-east to Chatelleraut.

Lusignan, Luciniacum Castrum, a small town containing about 2,000 inhabitants, on a rising ground bathed by the Vonne, nearly in the meridian of London, five leagues south-west of Poitiers, 23 north-east of Rochelle. Near it was a strong castle, taken by the Calvinists A. D. 1569, retaken in 1575 after a siege of four months, and demolished.

St Maixent, Fanum S. Maxentii, Maxentium, an indifferently built walled town, containing three parishes, a Benedictine abbey, several convents, and 5,000 inhabitants, pleasantly situate on the summit and declivity of a hill, near the source of the Sevre, six leagues westward of Lusignan. It is defended by an old castle, and is noted for being the birthplace of Andre Rivet. Its fairs are frequented, and its environs are fertile.

Niort, a considerable, well built, walled, manufacturing, trading town, containing two churches, nine convents, an old castle flanked with towers, and 15,028 inhabitants, on the Sevre below St Maixent, 17 leagues south-west of Poitiers, and 15 north-east of Rochelle. It is the birthplace of Isaac Beausobre and Mad. D'Aubigne.

Isle Jourdain, a little town in a fruitful tract watered by the Vienne, ten leagues south south-east of Poitiers, containing 400 inhabitants.

Sivray, or Civray, formerly a flourishing town when inhabited by protestants, now a small place containing 1,500 inhabitants, on the Charente, 12 leagues south of the capital, near the confines of Angoumois.

Charroux, Carrofum, a little town containing upwards of 1,000 inhabitants, with an old Benedictine abbey, in Briou, a league from Sivray, on the right hand of the Charente.

Montmorillon, a town containing 3,000 inhabitants, and formerly more populous, south-east of Poitiers, on the Gartempe. Its Roman octagon tower is a curious structure.

Chauvigny, a little town on the Vienne, six leagues east of the capital.

St Savin, a market town noted only for a Benedictine abbey, on the Gartempe, three leagues east of Chauvigny.

Civaux, famous for a considerable number of stone sepulchres, wherein, it is said, were deposited the remains of Frenchmen slain in a battle against the Visigoths.

Rechechouart, an inconsiderable town on the declivity of a hill, on whose summit is an handsome seat, and a fountain that supplies the town with water. It contains 1,440 inhabitants.

Chastelheraud, or Chatelleraut, Castellum Heraldi, a manufacturing and trading town containing 8,000 inhabitants, and famous for its cutlery ware, clocks, serges, &c. in an agreeable and fruitful tract, on the Vienne below the influx of the Clain, eight leagues north-east of Poitiers.

Partenay, Pertiacum, or Pertinaculum, an indifferently built town, containing 3,000 inhabitants, and formerly more considerable, with a castle in ruins, westward of the capital, on the Thouet.

Thours, or Thouars, a town environed by high walls, containing three parishes, several convents, and 2035 inhabitants, on an eminence near the Thouet, 14 leagues south south-east of Angers, between Argenton-le-Chateau and Loudun. This place confers the title of a dukedom and a peerage on the House of Tremouille.

Availio, a market town on the Vienne, near a frequented mineral spring; *Moncontour*, eight leagues north-west of Poitiers, on the Dive, near which the Huguenots were defeated in 1567; *Loudun*, an old tolerably built town containing 5,128 inhabitants, on an eminence between the Creuse and the Dive, three leagues north of Moncontour; are three towns of little note.

Lower Poitou, especially the maritime tract, is a rich and fertile soil.

Towns, &c.—*Mauleon*, Malus-Leo, an inconsiderable town with an Augustine abbey, on the rivulet L'Oint, 23 leagues north-west of Poitiers, and upwards of 12 north north-east of Rochelle.

Argenton-le-Chateau; *Mortagne*, on the Sevre; *Montaigu*, on a small stream that falls into the Sevre; *La Roche*; *Beauvoir*; are small market towns lying along the northern frontier of the province.

Les

Les Sables d'Olonne, or Olone, an island, market town, castle, village, and sea-port, in a marshy territory nine leagues west of Lucon. The town is two miles from the port, and its inhabitants are reckoned good sailors. The population of this town amounts to 5,168. The island has high water, in spring tides, at three o'clock.

Lucon, a small town and formerly a bishop's see, on the border of a morass that extends southward to the Sevre, seven leagues north of Rochelle, and 20 south of Nantes. This place has a communication with the sea by a canal two leagues in length.

Fontenay-le-Comte, a well built trading town, and the birth-place of M. Brisson, Rapin, &c. containing four convents, two hospitals, and 7000 inhabitants, at the foot of an eminence, on the Verdu a small stream that falls into the Sevre at Marans, six leagues from the sea, and nine north-east of Rochelle. There are some ruins of its castle; and the environs are fertile.

Noirmoutier, formerly called Her and Herio, and Hermoutier, insula nigris Monasterii, is a marshy and well inhabited island, three leagues long and seven in circuit, yielding grain, indifferent wine, and some pasturage, opposite to the western extremity of the province, 13 leagues south-west of Nantes. It contains Noirmoutier and Barbastre, two market towns, with several villages. This island is separated from the main land by a narrow channel. Within it is a bay of the same name, also called the Bay of Bourgneuf, 13 leagues east south-east of Belleisle. At the bottom of this bay is the little triangular island of Bovin.

Isle Dieu, or Isle d'Yeu, Oya, is an island four leagues in circumference, containing some inconsiderable villages, six leagues south of Noirmoutier, and three from the continent. It has no commodious port. At spring-tides, it is high-water on this part of the coast about three o'clock. A raging sea, which boils up as from some subterraneous passage, renders it a bad road. It is safest to ride on the north-east side of the island.

18. BRETAGNE.

Bretagne, so called from the Britons its ancient inhabitants, is a peninsule of a triangular form, surrounded by the sea except towards the east where it joins Normandy, Maine, Anjou, and Poitou. It lies between 45° 5′ and 48° 50′ N. latitude, and between 4° 50′ and 0° 55′ W. longitude. The extent of Upper Bretagne, from north to south, is 45 leagues, but the breadth of Lower Bretagne gradually decreases, so that along the western coast it does not exceed 15 leagues. The length of this province from west to east, near the north coast, is 54 leagues; but towards the south boundary it is not more than 25. The soil is of various qualities, indifferently cultivated, producing hemp, flax, fruits, and pastures. There are mines of iron, lead, and coal, mineral springs, and some natural curiosities. The coasts are full of bays and good harbours. Some districts are hilly; and a ridge of low mountains, called le Mont Arre, runs through Upper Bretagne. The whole province contains 2,315,000 inhabitants. The most considerable rivers are the *Loire* and the *Vilaine*. The former passes through the south-east corner of the country; the latter originates near the confines of Maine, and, after bathing Vitry, Rennes, and some other places, falls into the sea opposite to Belleisle.

Francis I. united this province to the French dominions A. D. 1532; and his successor abolished the title of Duke of Bretagne. It is now divided into five departments.

In *Upper Bretagne* are the following places of note:

Rennes, Condate, Civitas Rhedonum, the capital, a bishop's see, and the seat of a parliament before the revolution, is a large, tolerably built, populous town, divided into two parts by the Vilaine at the influx of the Lille, containing a cathedral, eight parish churches, two abbies, 17 convents,

convents, and upwards of 26,000 inhabitants; 27 leagues north of Nantes, 18 south south-east of St Malo, 50 north-west of Tours and 80 west south-west of Paris. It is the birth place of Rene Joseph Tournemine, Dom. Lobineau, Louis and Jaques Cappel. In the year 1720, 850 houses of this town were consumed by fire. The streets are narrow, dark, and dirty; but there are two good squares. The siege of this place by Edward III. king of England is celebrated in history. Anciently it was strongly fortified; but the walls are now in ruins, and the ditch nearly filled up.

St Aubin du Cormier, a little town built by the Duke of Bretagne, A. D. 1222, four leagues north of Rennes. In its neighbourhood the Bretons and their confederates defeated the army of Charles VIII. A. D. 1488, and the Duke of Orleans, afterwards Louis XII. was made prisoner. It contains 1,000 inhabitants.

Vitre, a small manufacturing town, containing 8800 inhabitants, on the Vilaine, the seat of the first barony in the country, the second town in the diocese of Rennes, and the birth-place of Bertrand d'Argentre, eight leagues eastward of the capital, and 28 north of Nantes.

Fougeres, Filiceriæ, a trading town containing 7000 inhabitants, with an abbey and old castle, on the rivulet Nanson that falls into the Coesnon, eight leagues north-east of Rennes, and nine south south-east of Avranches. It was formerly a place of some strength, and it is noted for its four annual fairs.

Nantes, Condivienum, Civitas Namnetum, is a large, populous, flourishing town and bishop's see, containing a cathedral, a collegiate church, an elegant theatre, 11 parish churches, 25 religious houses, an university founded A. D. 1460, several literary societies, 94 considerable streets, some monuments of antiquity, and 75,800 inhabitants, advantageously situate for trade, on the right bank of the Loire at the influx of the Ardre, 10 leagues from the sea, 18 west south-west of Angers, 82 north-west of Rochelle and 23 south of Rennes. Surrounded with a wall and

defended

defended by a fort, it is famous for being the seat of several councils, and for an edict issued here in favour of the Protestants A. D. 1598, and revoked in 1685. It has several suburbs, and is the birth-place of Pierre Bouguer an eminent mathematician. Pierre Abailard was born at Palais. Nantes carries on a considerable trade to Spain, Portugal, and America; but ships of burden come no higher than the village of Paimbœuf, nine leagues below the city. Its manufactures are woollen and cotton stuffs, glass-ware, liqueurs, &c.

Ancenis, Ancenisium, a little town and marquisate, pleasantly situate on the right bank of the Loire, near a forest, eight leagues north-east of Nantes. Its strong castle is demolished. This town contains 2923 inhabitants, and has a considerable iron foundery for cannon.

Chateau-Briant, Castrum-Briantii, a town containing 3000 inhabitants, with a ruinous castle, on the frontier of Anjou, 13 leagues northward of Nantes.

Guerande, Aula Quiriaca, Gueranda, a little town among salt marshes, between the mouths of the Loire and the Vilaine, a league from the sea, and 16 leagues west of Nantes.

Roche-Bernard, a market town, on the Vilaine, four leagues above its mouth.

Machecou, Machecou or Machecol, the principal sown in the dutchy of Retz, near the site of the ancient Ratiate, on the rivulet Tenu, eight leagues south south-west of Nantes, and two from the sea.

Bourgneuf, a small trading town of 2000 inhabitants, where a considerable quantity of salt is made, near salt marshes, on the east coast of a bay of the same name, eight leagues south-west of Nantes. There is an inconsiderable place called Bourg-neuf two leagues east of Rochelle. The little inhabited island of Boin, containing salt marshes, lies near the mainland, at the bottom of Bourg-neuf Bay. The island of Pillier is only a rock, six leagues westward of Bourg-neuf, and opposite to the north-

west

west extremity of the island of Noirmoutier, which is 13 leagues east south-east of Belleisle.

Dol, a thinly inhabited town of one long street, consisting of 1200 houses without a glass window, in a marshy and unhealthy site, two leagues from the sea-coast, six south-east of St Malo, and 12 north of Rennes. About a league from the town, in a large orchard, stands a single stone, called the stone of Lamentation, about 40 feet high.

St Malo, Maclopolis, Maclovium, an irregularly built, populous, trading town, and formerly a bishop's see, containing 9000 inhabitants, on a rocky island joined to the continent by a mole, defended by a castle and several forts on the adjacent rocks, 42 leagues northward of Nantes, and 85 westward of Paris. The streets in general are narrow; the harbour is large, commodious, and frequented, with a rocky entrance, and at ebb of tide is almost dry. It has high-water at full and change days at six o'clock. This town carries on a considerable trade, and in time of war is convenient for privateering. It is the birth-place of Jacques Cartier, of the celebrated Trouin, of Maupertuis, &c. About a league hence, the town of Aleth, a bishop's see, formerly stood. In 1149 this see was translated to St Malo; and the ruins of the town are now called Quidaleth.

St Servand, a town, properly a suburb of St Malo, containing about 2000 inhabitants, situate at the bottom of the bay.

Cesambre, or Sisambre, island, lies near a league and a half north-west of the town and harbour of St Malo. On the west end of the island is a mill, and on the east end a church with some small houses. Half a mile eastward is the Mewstone. The intervening space is rocky, and mostly covered at high-water. Opposite to the west end of Cesambre are many rocks above a gunshot from the shore, at the west end of which the western channel of St Malo goes in nearly in the direction of south by east. Nearly south, and a little east of Mewstone, are the Great and Little Bee Rocks about a gunshot north-west of St Malo.

The

The rocks, islets, and shoals are so numerous on that part of the coast, that no mariners venture to approach the harbour of St Malo without a pilot.

Dinan, a manufacturing and trading town, containing 4,200 inhabitants, with a castle whose walls are of uncommon thickness, on a steep hill, in a fertile and agreeable tract bathed by the Rance, six leagues south of St Malo, and 12 north north-west of Rennes. In a neighbouring valley there is a mineral spring. Its manufactures are cloths of various qualities, cottons, flannels, &c.

Cancale, at the bottom of a bay of the same name, a few leagues east of St Malo; and Chateau-neuf, environed by woods, plains, and meadows, between St Malo and Dol; are two places of little note. Cancale Bay forms a circle of 10 leagues, in which a large navy may find excellent anchorage. There are only three rocks in it, eastward of the town. The cove has an easy, flat shore; but the point, or groin, north of the town, is defended by several batteries, and the fortified islet of Remen. The entrance of the bay is about four leagues in breadth, and has high water, at spring tides, some minutes past seven o'clock. Off the islets of Rimen and Catelier are dangerous rocks called the Filles, within which is another rock, above water, called Grand Pierre.

Josselin, a manufacturing town, containing two abbies, two convents, four priories, four parishes, and 5000 inhabitants, in the diocese of St Malo, near the centre of Bretagne, 8 leagues north north-east of Vannes, 18 west south-west of Rennes, and 21 south south-west of St Malo. The castle was taken and demolished A. D. 1168, and the town was destroyed in 1170, but soon after rebuilt. A neighbouring plain is famous for a combat between 30 English and as many Britons, A. D. 1370.

St Brieux, Fanum S. Brieci, the birth-place of Francois Duaren, a bishop's see, and an open, well built, [illegible] containing 8,000 inhabitants, in a pleasant and fruitful [illegible] half a

league from the sea-coast, where is a small harbour 11 leagues westward of St Malo. The adjacent territory yields grain, flax, and pastures.

Lambale, a manufacturing town divided into upper and lower, in the dukedom of Penthievre, four leagues south-east of St Brieux, and six west of Dinant. Two leagues hence are the ruins of the strong castle of Brons.

St Quentin, a little town and dukedom, seven leagues south south-west of St Brieux. The town and castle are situate in a valley watered by a rivulet, near a forest of the same name.

Towns, &c. in Lower Bretagne.—Treguier, *Trecorium*, and *Lantriguier*, an ancient trading town built A. D. 836, on a peninsule formerly called Trecor, at the conflux of two small streams, on the north coast, 10 leagues north-west of St Brieux, and 25 north-east of Brest. It contains 3000 inhabitants.

Morlaix, Mons Relaxatus, a small, walled, populous, trading town containing 9000 inhabitants, with a large suburb, on a navigable river, two leagues from the sea-coast, 12 north-east of Brest, 18 west of St Brieux, 118 from Paris. Of tobacco 25,000 quintals are in this place annually manufactured. The mouth of the river is 50 feet in breadth; the harbour is defended by a fort on an island, and the adjacent road or bay is frequented. Behind the town the hills are steep.

Guingamp, a town consisting chiefly of one street, containing 5,200 inhabitants, on the Rieux a small stream which, at the distance of two leagues, falls into the sea at Port-Rieux. This place is six leagues westward of St Brieux in the road to Morlaix, and near it is an Augustine abbey.

Les Sept Isles are seven rocks, on some of which are fishermens' huts. They lie on the north coast of Treguier, and are environed by shoals.

St Pol de Leon, a little port town in a diocese of the same name, 12 leagues north-east of Brest. The church steeple is of great height. To

the northward, and opposite to a narrow peninsule, lies the small island of Bas, about two miles in length, inhabited, and defended by a fort.

Brest, the capital of the French marine, is a large and indifferently built town, with narrow and winding streets, divided into three parts, containing upwards of 26,000 inhabitants, on a declivity, 12 leagues south-west of Morlaix, 12 north north-west of Quimper, 48 west of Rennes, and 131 west of Paris. Its spacious road and harbour are safe, and capable of containing 500 ships of war, in 8—15 fathoms at low water. The entrance from the west south-west, called "the Gullet," is narrow, rocky, and dangerous; on the sea-side guarded by a castle, opposite to which is a strong tower in a suburb. On the land side there is a ditch, with other fortifications. On one hand of the port is a quay above a mile in length, and 200 paces broad, covered with storehouses; and on the other is a quay for warehouses. At the bottom of the harbour there are two docks for the building of ships. The arsenal is large, and plentifully supplied with naval stores. It was entirely consumed in 1744. At spring tides it is high water at three hours 45 minutes. Without the Gullet the tides are three quarters of an hour sooner; and they usually rise about three fathoms.

Ouessant, Uxantis, eight leagues north-west of Brest, and four from the continent, is a fertile island three leagues in circuit, containing several hamlets, a light-house, and a fort, environed by reefs of rocks. It is steep on the east, but level on the western coast. On the north coast of the island is the Bay of Benien, or St Michael, having deep water. There is good anchorage also under the north-east end of the island, in 10—14 fathoms; and at the south-west end is a deep bay, at the entrance of which are 25 fathoms. South-east of the island are the islets of Morlene, Quemens, and Benquet, forming the west side of the channel, called Passage de Four. It is high water on full and change days at half past four o'clock.

Landerneau,

Landerneau and *Landivisiau*, two little towns in a fruitful and agreeable tract, on a small stream that runs southward to the bay of Brest. In the former is a tan-work, a paper-mill, manufactures of cloth, &c.

Quimper, or Kimper, a bishop's see, and a considerable town, containing a large cathedral, an episcopal palace, and 7000 inhabitants, at the junction of the Oder and Benaudet, 12 leagues south south-west of Brest, and 42 westward of Rennes. It is the birth-place of Freron, Hardouin, and P. Bougeant.

Douarnenez, a little town with a harbour, at the bottom of a deep bay of the same name, on the western coast, nine leagues south of Brest. Round *Chevre-bec*, also called Bec-du-Raz, the north-west point of that bay, the tide sets with violence; and near it, at spring tides, is high water about twenty minutes past two o'clock. Beyond that point is the small and well sheltered bay of Dinan, on the south side of the peninsule of Camaret, having 4–12 fathoms water; and off its south-west point are several islets called the Castles of Dinan, the village of that name standing on the point. But this bay is little frequented, on account of the rocks, islets, and shoals interspersed in those parts. On the north coast of the peninsule, and opposite to Dinan, is Camaret, a small sea-port town, with a road open to the north, but protected by forts.

Sayn, or Sena, Isle de Sains, is a little, low, inhabited island, environed by dangerous rocks and shallows, opposite to the promontory on the south coast of Douarnenez Bay, and separated from it by a channel called Passage du Raz, through which the tides and currents run with great rapidity, and render the navigation extremely dangerous. Between Saintes and Ushant, there is a broad sound called the Passage Lirois, that stretches from St Mathew's Point five leagues seaward. About three leagues east south-east of Passage du Raz, is *Hodierne*, or Audierne-bay, that affords good anchorage, but is exposed to the south and south-west winds. There is a small haven, with a bank at the mouth

of it; but on either side of this bank, a ship may find two fathoms water. On full and change days, it is high tide at three quarters past two o'clock. A narrow peninsule separates this place from Douarnenez.

Penmarch, an inconsiderable place near the sea-coast, in the south-west corner of Bretagne, opposite to which are several islets.

Conquernau, a little place with a harbour, on the coast, six leagues westward of Quimperley, opposite to the isles Aux Moutons and de Glenan.

Quimperley, formerly a considerable, now a small town, with two suburbs, containing a Benedictine abbey, founded A. D. 1029, several convents, and 4,160 inhabitants, at the conflux of the Elle and Izotte, a league and a half from the sea, eight leagues south-east of Quimper, and three and a half from Port Louis. Its harbour is almost choked up.

Sizun, a little island in the diocese of Quimper, three leagues from the main land, low, barren, of difficult access, and in danger of being swallowed up by the sea. Its inhabitants subsist on barley, roots, and fish.

Port Louis, a small, fortified, trading town, containing several convents, two hospitals, an arsenal and powder magazine, at the mouth of the Blavet, 10 leagues west of Vannes. It was built by Louis XIII. out of the ruins of Blavet, a little, strong town, higher on the river. Its citadel is insulated and environed by rocks and shoals. It has a commodious harbour and a spacious road. The entrance is about a league and a half north north-east from the eastern end of Grouays island, and is of difficult access on account of several ledges of rock. The safest course is along by the west land. In the midst of the haven is the islet of Michel, near which is anchorage in three or four fathoms at low water.

L'Orient, a regularly built, fortified, trading town, founded A. D. 1720, 2000 toises from Port Louis, near the mouth of the Scorf or Ponscroff, containing about 19,000 inhabitants. It was the port of the French East India Company, but is now greatly decayed. The English in vain

attempted

attempted to reduce it A. D. 1746. The small island of Groix or Grouays, opposite to Port L'Orient, is inhabited. A poor tract of country extends eastward to Auray.

Hennebon, a little, trading town, formerly fortified, containing 3000 inhabitants, pleasantly situate two leagues above the mouth of the Blavet, and 104 south-west of Paris. It is the birth-place of Pezron, and is divided into New Town, Walled Town, and Old Town.

Pontivi, a small inland town, and the chief place of the dukedom of Rohan, nine leagues north north-east of L'Orient, containing 3,090 inhabitants.

Rohan, an inconsiderable town that gives its name to a noble family, 12 leagues north of Vannes, on the Aouste, a rivulet that runs south west to the Blavet, containing 420 inhabitants.

Auray, Auraicum, a little trading town, consisting of one handsome street and a quay, with a harbour, on the irregular, spacious bay of Morbian, which is interrupted by rocks and shoals, four leagues west of Vannes, and 25 south-west of Rennes. In the year 1364 a battle was fought here by John Count de Montfort and Charles de Blois.

Vannes or *Vennes*, Urbs Venetica, afterwards Dariorigum, a bishop's see, an old and indifferently built town, with narrow streets, containing 8,700 inhabitants, on two small streams, two leagues from the sea, with which it has a communication by the canal of Morbian, 25 leagues north west of Nantes, 23 from Rennes, and 100 from Paris. Its strong castle, anciently a ducal residence, now lies in ruins. The suburb is larger than the town itself. The harbour in Morbian Bay is secure, but not frequented. Thence to Roche-Bernard there is an ill improved country.

Quiberon, a village with two harbours for small ships, in a peninsule of the same name that runs out into the sea, opposite to Morbian Bay, about four leagues north of Belle-isle. There are several rocks which extend from the south-east end of Quiberon about a league to seaward,

so

so that the navigation is dangerous between that peninsule and Houat Isle, which lies a few miles from Point Lomaria at the east end of Belle-isle.

Belle-isle, Colonesus, an island five leagues long and two broad, environed by rocks, seven miles south of the extremity of Quiberon, containing four little towns, and 23 villages and hamlets. On the coast are several small ports and harbours, some of which are safe for shipping, and well fortified. This island, diversified with rocks, hills, plains, and marshes, is divided into four parishes, viz. Sauzon, Palais, Bangor, and Locmaria. *Palais*, the principal town, is situate on the north coast. At the mouth of its harbour is a pier of cut-stone about 200 feet in length and 30 in breadth. In the road there is good anchoring ground; but when the wind is fresh from the north, or north-east, no ship can ride there in safety. *Sauzon*, on the same coast, has a harbour for vessels of 50 tons. *Belle-isle* is a rendezvous of the French fleet for Channel service. It was taken by the English in 1761, but restored in 1763. It was sometime besieged by the English fleet under Lord Bridport A. D. 1795. It is accessable in three places only, being elsewhere surrounded by steep rocks. At spring tides there is high water at half past two o'clock.

19. NORMANDY.

Normandy, so called from the Normans its ancient inhabitants, is bounded on the north and west by the sea, on the east by Picardie and Isle de France, on the south by Perche, Maine, and Bretagne; lying between 48° 20′ and 50° 10′ N. latitude, and between 1° 55′ W. and 1° 55′ E. longitude; being 30 leagues from north to south, and 55—60 from west to east. There are 80 leagues of coast, containing many bays and harbours, the principal of which are Treport, Dieppe, St Valery, Fecamp,

Fecamp, Honfleur, Cherbourg, Portbail, and Grandeville. Quilleboeuf, Caudebec, and Rouen, are harbours on the Seine.

This is one of the most fertile provinces in the kingdom, and consists of a rich sandy loam on a calcareous bottom, yielding grain, fruits, and pastures, with some wine of an inferiour quality. There are mines of iron, copper, and coal, with mineral springs.

Rivers.—The Seine flows from Isle de France, traverses the north-east part of this province, and discharges itself into the British Channel. The Eure proceeds northward, near the eastern boundary of Evreux, and falls into the Seine at Pont de l'Arche. The Rille originates near St Vandrilly in Alencon, runs northward, and loses itself in the mouth of the Seine. The source of the Orne is at Aunou, near that of the Rille, and thence it flows north north-west by Seez and Caen to the Channel. The direction of the Dive is almost parallel to that of the Orne. The Vire rises above a village of the same name 15 leagues south south-west of Caen, and runs northward to a gulf called Grandvay.

Under the kings of the Franks, Normandy constituted a considerable portion of the kingdom of Neustria. It was afterwards governed by dukes, one of whom became king of England, and in 1203 was annexed to France. The feuds subsisting between the houses of Orleans and Burgundy, induced the English to over-run that country and a great part of the French dominions. They kept possession of Normandy 30 years, and were expelled by Charles VII.

This province is divided into two parts, viz. upper and lower; and these into seven districts, viz. Caux, Rouen, Gisors, Evreux, Caen, Coutances, and Alencon; containing one archbishopric, six bishoprics, ninety-four abbies, and about 4216 parishes, and 2,134,000 inhabitants.

Upper Normandy consists of the following districts, viz.

1. *Caux* is a level and fertile territory 17 leagues in length and 10 in breadth, lying between the Seine, the Ocean, Picardie, Pays de Bray, and Vexin Normand, containing about 600 parishes and 40 market-

towns;

towns. Of a triangular form, it abounds in grain, hemp, fruit, and pastures.

Caudebec, Caledum Beccum, the capital of Caux, is a small, walled, populous, trading town, at the foot of a hill on the right bank of the Seine, seven leagues westward of Rouen, eleven east of Havre, and twelve north-east of Lisieux. In 1419 it was taken by the English, in 1562 by the Protestants, and in 1592 by the royalists. In this place and its vicinity are tanneries, bleachfields, &c.

Lillebonne, or *L'Isle-bonne*, a small open town, and the seat of two provincial synods, viz. in 1080 and 1162, containing two parishes, situate between two eminences, on one of which are the ruins of a castle ten leagues west of Rouen, eight east of Havre, and a mile from the Seine. It contains about 2000 inhabitants.

Dieppe, Deppa, a well built trading sea-port, of a triangular form, strongly but irregularly fortified, containing 20,000 inhabitants, in a low site at the mouth of the Bethune, on the channel, 13 leagues north of Rouen, and 38 north north-west of Paris. It is the birth-place of Bruzen de la Martiniere, Quesne, &c. and is famous for its laces and ivory work. Its narrow harbour is 600 toises long, and has only 18 feet of water at full sea. This was the port for packet-boats from Brighthelmstone before the war. At spring-tides it has high water at half past 10 o'clock. A ledge of rocks lies on the east side of the haven, and thence a little reef extends to north-west. A channel, marked by buoys, goes in on the south side of this reef to south-east; and within it is a narrow inlet. Four miles westward of Dieppe there is a light-house on Cape Lailly, off which the ground is foul two miles from shore. Ships of war anchor in the road two miles from the town. In 1694 this place was laid in ashes by the English, but afterwards rebuilt. Its fairs are frequented. Near Bruneval, a league and a half eastward of Dieppe, are vestiges of an ancient camp.

Eu, a town containing a collegiate church, three parish-churches, an abbey, an Augustine priory, some Roman antiquities, and about 3000 inhabitants, in a valley on the left bank of the Bresle, seven leagues north-east of Dieppe, five south-west of Abbeville, and 38 north north-west of Paris. Near Eu is a hill abounding in metallic substances and all sorts of petrifications.

Treport, Ulterior Portus, a little town, with a Benedictine abbey and an harbour, at the mouth of the Bresle below Eu. In this place are wells that increase when the sea ebbs, and decrease when it flows. Ships may enter into the harbour at high water, but will be dry at ebb.

Yvetot, *Dondeville*, *Cany*, *Cailly*, *Grainville*, are inconsiderable places in the district of Caux.

St Vallery en Caux, a market-town, with a small harbour, seven leagues westward of Dieppe, at the entrance into a valley.

Longueville, a small town with a rich Benedictine priory, on the Scie, three leagues from Dieppe, and nine north of Rouen. Louis XII. erected this place into a dutchy A. D. 1505, and in 1707 it was reunited to the Crown.

Arques, an inconsiderable place, on a stream of the same name, one and a half league above Dieppe. In its neighbourhood Henry IV. defeated the forces of the league in 1589.

2. *Bray* is a district south-east of Caux, diversified with uncultivated hills, marshy bottoms, and tracts yielding fruits and pastures.

Neufchatel, a small, inland, manufacturing town, containing upwards of 2800 inhabitants, on the Bethune, eight leagues south-east of Dieppe, nine north north-east of Rouen, and 28 north north-west of Paris.

Aumale, or *Albemarle*, Albamala, formerly a strong place, now a small manufacturing town, with a Benedictine abbey founded A. D. 1115, on the declivity of a hill, below which is a meadow watered by the Bresle, fourteen leagues north-east of Rouen, and five east of Neufchatel. It has three weekly markets, and three annual fairs.

Gournay, Gornacum, a manufacturing and trading town, noted for its excellent butter and cheese, on the Epte, six leagues from Beauvais, ten from Rouen, and 21 north-west of Paris.

Forges, a place famous for its mineral waters of a ferruginous quality, near the source of the Epte, nine leagues north-east of Rouen, and 25 north north-west of Paris.

3. *Rouen*, Rothomagus, Rothomum, the capital of Normandy, and an archbishop's see, is a large, indifferently built city, environed by a ruinous wall with old round towers and irregular bastions, in Vexin Normand, on the Seine, 24 leagues south-west of Amiens, and 30 north-west of Paris. It is the birth-place of Jacques Basnage, Jean du Bosc, Samuel Bochart, Pierre Corneille, Thomas Corneille, Gabriel Daniel, Fontenelle, Basnage, and other learned men. In the town and several suburbs, there are 37 parishes, 5 hospitals, 40 convents, a college founded by Cardinal de Bourbon, an academy of sciences and belles lettres established A. D. 1744, and 78,000 inhabitants. The streets, except three, are narrow and irregular. In the cathedral, built by William the Conqueror, are monuments of several kings, lords, and prelates; and in one of its towers is a bell ten feet high, ten in diameter, and one foot thick, weighing 36,000 pounds. The old palace, in the form of a castle flanked with towers, was founded A. D. 1419 by Henry V. king of England. This town was the seat of a parliament before the revolution; and here the Maid of Orleans was burnt by the English. The tide rises so high that vessels of 200 tons may come up to the quay. A bridge of boats, 270 paces in length, was built across the river A. D. 1626. It is paved, and on each side there are paths for foot passengers. The environs, agreeably diversified with seats and villas, are bounded by hills; and the river above the town is checkered with wooded islets.

Darnetal, a small manufacturing town, a few miles east of Rouen.

Jumieges, an inconsiderable place on the Seine, a few leagues west of the capital, and noted only for a Benedictine abbey.

Ponte

Ponte L'Arche, formerly a place of importance, now a small indifferently built, walled town, defended by a strong castle, on the left bank of the Seine, five leagues south south-east of Rouen, two north of Louviers, twenty-six north west of Paris. It has several manufactures of cloth, and a bridge of twenty-two arches across the river.

Louviers, Lupariæ, a small, walled, manufacturing town, containing 6,500 inhabitants, the birth-place of Linant a poet, and of Jean Baptist Gauthier a theologian, situate in a fertile plain watered by the Eure, four leagues north of Evreux, two south of Pont de L'Arche, six south of Rouen, 24 north-west of Paris.

Elboeuf, a considerable town, famous for its manufactures of tapestry and fine cloth, south of Rouen, on the left bank of the Seine, in a bottom bounded by an amphitheatre of hills.

Gaillon, Castrum Gallionis, a market-town, with an archiepiscopal palace, on the left hand of the Seine, a few leagues south south-east of Louviers.

Verneuil, a town containing two convents and upwards of 2000 inhabitants, on the Eure.

Pont-Audemer, a walled market-town, containing two parishes, with a suburb and 5,090 inhabitants, on the Rille, at some distance from the mouth of the Seine, nine leagues west of Rouen, seven north north-east of Lisieux, six east of Honfleur, thirty-six north-west of Paris. There is a small harbour at the mouth of the river Rille.

Le Bec, a market-town, with a rich Benedictine abbey, founded A. D. 1071, above Pont-Audemer, at the conflux of the Rille and Bec.

Honfleur, Huneflotum, a populous, trading town, containing two convents, an hospital, and 8000 inhabitants, with a good harbour for small vessels, on the left side of Seine mouth, three leagues from Havre, six north-west of Lisieux, 16 westward of Rouen, 44 north-west of Paris. Ships must go in with the tide over the bank in the entrance of the river's mouth.

Cormeilles, an inland market-town, containing three parishes, with a Benedictine abbey, three leagues north north-east of Lisieux, and three south south-west of Pont-Audemer.

3. *Gisors*, Cœsortium, a small town founded by William Duke of Normandy A. D. 1097, with several suburbs, containing seven convents, an hospital, an old castle, &c. in a fertile district of the same name, on the Epte and border of Isle de France, 12 leagues south-east of Rouen, and 18 from Paris. Its manufactures are fine cloth and glass ware.

Vernon, Verno, a town containing 3,000 inhabitants, in a pleasant valley on the Seine, five leagues from Evreux. The walls of an old castle are of uncommon thickness, and its tower of great height.

Andelys and *Andelejum*, two small towns a mile from each other, the one situate in a valley watered by the Gambion; and the other on the Seine, eight leagues from Rouen. *Great Andelys*, on the Gambion, contains two parishes, a Benedictine abbey, two convents, and is the birth-place of Poussin a celebrated painter. *Little Andelys* was formerly a fortified town, and is still defended by a castle. It contains a parish, an hospital, and a convent.

Chaumont south-east, and *Magny* south of Gisors, are places of little note.

4. *Evreux*, Mediolanum, Eborice, Civitas Evaricorum, is a bishop's see, also an ancient and considerable town, with large suburbs, containing nine parish churches, two abbies, ten convents, and 8,400 inhabitants, situate in a deep and fruitful vale of a district of the same name, on the Eton, five leagues from Louviers, eight from Dreux, 12 from Rouen, and 23 north-west from Paris. Its cathedral is a fine Gothic structure. The manufactures and trade of this place are not very productive.

Beaumont-le-Roger, an open town containing upwards of 3,000 inhabitants, in Pays d'Ouche, five leagues westward of Evreux on the Rille, below the place where this river emerges from its subterraneous course, and above its conflux with the Carenton.

Bernay,

Bernay, a small manufacturing and trading town, with a rich Benedictine abbey founded A. D. 1013, on the Carenton, 13 leagues south south-west of Rouen, and six south-east of Lisieux. It contains 6,142 inhabitants. Its manufactures are cloth, woollen-stuffs, &c.

L'Aigle, an old walled town, containing three parishes, two convents, and an hospital, on the Rille, 11 leagues south-west of Evreux, in Pays d'Ouche.

Lisieux, Lexovium, Civitas Liciacensis, formerly a bishop's see, and a considerable, tolerably built, manufacturing town, surrounded by a wall and ditch, with four suburbs, containing a cathedral and episcopal palace, four gates, a Benedictine abbey founded A. D. 1050, several parishes and religious houses, and 10,000 inhabitants; situate partly on a declivity and partly in a valley, at the confluence of the Orbec and Gassey, whose united streams here assume the name of Tongue; 18 leagues south-west of Rouen, 10 eastward of Caen, and 5 from the sea. Its manufactures are cloth, flannels, &c.

Conches, a small town in the district of Ouche, containing three parish churches, an hospital, and a rich benedictine abbey founded in the 11th century. This town is situate on the brow of a hill, four leagues south-west of Evreux. In its vicinity are iron mines.

Breteuil, a little town on the Iton, seven leagues south-west of Evreux. It has a considerable trade in iron.

Damville, formerly a strong place, now the title of a dutchy, on the Iton, three leagues south of Evreux.

In *Lower Normandy* are the following places of note:

Caen, Cadomus and Cathom, a large town environed by a high wall flanked with 21 towers, and defended by a spacious castle, in a pleasant valley between two meadows, at the junction of the Orne and Odon, two leagues south of the British channel, 28 west south-west of Rouen, and 50 west of Paris. Including four suburbs, it contains 12 parish churches,

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an episcopal palace, two abbies, 14 convents, an university founded in 1452, an academy of sciences instituted in 1706, and 39,000 inhabitants. It is the birth-place of Francis Malherbe, Jean Francis Sarrazin, Daniel Huet, and Pierre Varignon. Its trade in cloth and fine linen is considerable. This town was taken and plundered by Edward III. A. D. 1346.

Falaise, a manufacturing and trading town, containing two parish churches, one abbey, two convents, and two hospitals, on a rock near the conflux of two rivulets, nine leagues from the sea-coast, 11 south-west of Lisieux. Its castle was formerly a place of strength. An annual fair of 15 days is held in its suburb, called Guibrai. Falaise is the birth-place of William the Conqueror.

Vire, Castrum Viriæ, a manufacturing town of one parish, with a suburb, containing 7,523 inhabitants, below the source of a river of the same name, 14 leagues south south-west of Caen, and 58 west of Paris. It is the birth-place of Touissant Desmares, Jean Gosselin, Jean Baptist-Duhamel, Michel-de-Tellier, &c. Its manufactures are cloth, serges, ropes, hardware, &c.

Thorigny, a market town containing two parish churches, one abbey, one priory, one hospital, with an elegant seat, and 2,000 inhabitants, on a rivulet that falls into the Vire, 10 leagues south-west of Caen.

Conde, a manufacturing town, containing 2,500 inhabitants; pleasantly situate in a valley watered by the Noireau.

The district of *Bessin*, whose capital is *Bayeux*, abounds in pastures, orchards of apple-trees, iron mines, quarries of slate, &c.

Bayeux, Beducassum, Baiocas, an old, manufacturing, trading town, and bishop's see, containing a magnificent cathedral with three towers, 17 parishes including the suburbs, seven convents, two priories, two hospitals, with a castle, and 10,000 inhabitants, on the river Aure, a league and a half from the sea, 32 leagues westward of Rouen, and 56 west

west north-west of Paris. Its environs, consisting of gentle eminences, are covered with excellent pastures. The celebrated tapestry, or embroidered web of linen, is sometimes exhibited.

St Lo, Fanum St Laudo, a clean, walled, manufacturing town, with three suburbs, containing four parish churches, two hospitals, several convents, a citadel, and 6,987 inhabitants, in a fertile tract, on the Vire, eight leagues south south-west of Bayeux. The adjacent country is diversified with woods, cultivated fields, and villages. Between St Lo and Bayeux there is a mine of coal below an iron mine.

Isigny, Isiniacum, the birth-place of P. de Tellier, and a market town, containing 1,500 inhabitants, with a small and frequented harbour, pleasantly situate on a gulf called Grand Vay, between the mouths of the Vire and the Aure. In its vicinity there is an handsome seat belonging to the Marquis de la Luzerne.

Longues, at the mouth of the Aure, noted only for a Benedictine abbey.

The district of *Cotantin*, diversified with rocks and vallies, and watered by many streams, produces grain, fruit, flax, and pastures.

Carentan, Carentonum, an inconsiderable and unhealthy town, formerly defended by a wall and a castle now in ruins, in a marshy tract westward of Issigny, three leagues from the Grand Vay. The two small islands of St Marcou, viz. Amont and Aval, opposite to the mouth of Grand Vay, yield good pastures.

Valogne, Valoniæ, an open, manufacturing town, containing two parish churches, a benedictine abbey, several religious houses, and 6,800 inhabitants, in a peninsule, on a small stream, three leagues from the sea-coast, seven north north-west of Carentan. Its castle was demolished A. D. 1689. In its neighbourhood, A. D. 1695, the site and some remains of Crociatonum, a Roman town, were discovered. The village of Valdesie, near Valogne, is the birth-place of Jean de Launoi.

Cherbourg,

Cherbourg, Cæsaris Burgus, Castellum Carusbur, an old, irregularly built, dirty, walled, manufacturing town, containing 11,300 inhabitants, with a rich Augustine abbey, and a good sea-port, in a sandy plain, at the mouth of the Divette and bottom of a deep bay, between the capes of La Hogue and Barfleur, 16 leagues north of Coutances, and 74 north-west of Paris. The inhabitants are chiefly employed in building vessels, and manufacturing woollen stuffs. This place was besieged by the English in 1418, and by the French in 1450. Its fortifications were razed by Louis XV. A. D. 1689. The English destroyed the harbour in 1758, but another has been constructed. Vessels of 900 tons come in at high, and of 250 at low water. Immense sums have been expended in erecting a pier, moles, &c. At spring tides it is high-water about half past seven. La Hogue, or La Hougue, Caput Ogæ, is a cape protected by a fort called L'Isle-a-Madame. The adjacent road is commodious for trading vessels and ships of war. There are three great forts erected upon rocks in the sea. The central one, about three miles from the shore, is garrisoned by upwards of 1000 men. On a line with it, but divided by a distance sufficient for the admission of shipping, commences the artificial bar, or wall, six miles in length and 300 French feet in breadth, composed of massy stones and masonry. On this stupendous wall a chain of forts is intended to be erected.

Barfleur, Barofluctum, formerly a considerable town with an excellent harbour, now a small sea-port with a harbour almost choked up, near a cape of the same name, six leagues eastward of Cherbourg. This place was laid in ruins by the English A. D. 1346; and here the English burnt a part of the French fleet A. D. 1692, after the battle off La Hogue. Cape Gatteville, on which Barfleur light-house stands, a quarter of a league north of the town, is a low rocky point that runs 300 fathoms into the sea. All the adjacent coast is rocky, of a kind of granite.

Coutances, Constantia, Cosediæ, an old, inconsiderable, manufacturing town, containing a cathedral, four parish churches, one abbey, five convents, an hospital, and 8,500 inhabitants; partly on an eminence and partly in a plain, on the Sioule, near the middle of the western coast of Normandy, two leagues from the sea, 11 south-east of Jersey, nine north of Avranches, 16 north north-east of St Malo, 71 westward of Paris. The fortifications of this place are demolished; its cathedral is a fine Gothic structure on the summit of the hill, but its trade and manufactures are inconsiderable. The country, on all sides towards St Lo, Avranches, &c. appears to be a rich garden tinted with woods.

Gavrey, on the Seine, a few leagues south of Coutances; *Hambye*, with an old castle, a few leagues south-east of Coutances, near the rivers Sioule and Ambiotte, a league from a Benedictine abbey; *Ville-Dieu*, in a bottom watered by the Seine, a few miles south of Gavrey; *Perou*, with a small harbour covered by dangerous rocks; *Port-Bail*, opposite to Jersey; are inconsiderable places.

Granville, Grandisvilla, a little walled town, built by the English, with two suburbs, in a rocky peninsule, partly on a rock and partly in a plain, on the western coast, containing 2,500 inhabitants, six leagues south of Coutances, and 74 north-west of Paris. This place has two ports; and near it are the little uninhabited islands of Chausey, environed by shoals. It lies about 13 leagues south south-east of Jersey, and has high-water on full and change days about seven o'clock. Though it is only seven leagues north-east of St Maloes by sea, yet it is more than three times that distance by land, round the coast of Cancale Bay. It employs 60—80 ships to Newfoundland yearly, and about 2000 seamen.

Avranches, Ingena, Abricantæ, formerly a bishop's see, and an old town, containing a cathedral, three parish churches, an abbey, a convent and hospital, and 5,400 inhabitants, pleasantly situate on an eminence in the fruitful district of Avranchin, in the south-west corner of the

province, nine leagues south of Coutances, 12 east of St Malo, 70 west of Paris. This place was the seat of a council in 1172. Its fortifications were demolished in 1203, and afterwards repaired. The cathedral, built on a hill that terminates abruptly, bears the marks of high antiquity.

Mont St Michel, a little, tolerably built town, on a rocky promontory about a mile in circuit, between the rivers Sec and Selune, a few miles south-west of Avranche. The promontory has two summits, on one of which stands a Benedictine abbey, and on the other are the ruins of a castle demolished in 1669. This place is visited by pilgrims, and has been long used as a state prison. In the mountain are many subterranean chambers, and certain dungeons called Oubliettes, in which malefactors guilty of heinous crimes have been confined. In one of those dungeons is an iron cage, the abode of many eminent victims in former ages. The ample revenues of the abbey were sequestered by Louis XV. and the buildings are verging to ruin.

Pontorson, four leagues south south-west of Avranches; and *St James's*, formerly a little, strong town, a few leagues south-east of Pontorson; are two inconsiderable places.

Mortain, Moritolium, Moretonium, a little manufacturing town consisting of one street, and 2,650 inhabitants, bathed by the Lances, and of difficult access, being environed by rocks, with a castle in ruins, seven leagues eastward of Avranches, and six westward of Domfront. This is the principal place of a district, and in its vicinity is a Cistercian abbey.

Barenton, a market town, containing 1500 inhabitants, a few miles south-east of Mortain, near the source of the Ardec.

Domfront, Domfrontium, Castrum Domini Frontis, a town containing a priory, several churches and convents, and 1700 inhabitants, on a rugged hill, in the district of Passais, near the Varenne, 14 leagues north-west of Alencon, and 56 westward of Paris. It manufactures are bone lace, coarse cotton cloth, serges, tan-works, &c. Two leagues hence is the fine abbey of Lonlay.

Argentan,

Argentan, a little, regularly built, populous, manufacturing town, environed by a wall and a rampart, containing a priory, four convents, two hospitals, and 5,618 inhabitants, in a fertile plain watered by the Orne, eight leagues north of Alencon.

The hilly district of *Houlme*, abounding in iron-works, contains *Briouze* and *Carouges*, two small market towns.

Alencon, Alenchium, Alentio, an old, well built, walled, manufacturing, and trading town, with several suburbs, containing two parish churches, an abbey, five convents, two hospitals, a ruinous castle, and 12,400 inhabitants, in a large and fruitful plain of the same name on the south border of the province, at the conflux of the Sarte and Briante, 35 leagues south south-west of Rouen, and 44 west south-west of Paris. This place rose gradually to be a marquisate, earldom, and peerage. It is noted for its cloth, bone-lace, and for stones called Alencon diamonds.

Seez, Sagium, Saiorum Civitas, a bishop's see, and old town, containing a cathedral, five parishes, several religious houses, and 5,000 inhabitants, on the Orne, in the middle of an extensive and fertile plain, five leagues north of Alencon, thirty south south-west of Rouen, forty-one west of Paris. This place was in vain besieged by Henry, junior, A. D. 1174, and burnt by the English in 1353. The cathedral, finished in 1166, is a handsome edifice.

Epay, Axis, a little walled town, containing 1,000 inhabitants, with an Augustine abbey.

Almeneches, with a Benedictine abbey, on a small stream that loses itself in the Orne; and *Echaffour*, on a rivulet that falls into the Rille; are places of little note.

Verneuil, a little well built town and marquisate, containing two parishes and two convents, formerly defended by a castle, on a rivulet that runs eastward to the Aure, nine leagues southward of Evreux, thirteen north-east of Seez, twenty-two south of Rouen, twenty-seven south-west of Paris. Its manufactures are coarse-stuffs, hosiery, tan-works,

&c. In its neighbourhood there was a famous battle between the French and English A. D. 1424.

Tilliers, or Tillieres, Tegularia, a market town, with a seat on an eminence bathed by the Aure, or Eure, three leagues eastward of Verneuil.

Nonacourt, in the middle age, Nonanticuria, an inconsiderable town, on the Aure, a few miles eastward of Tilliers, in the diocese of Evreux, near the confines of Isle de France.

20. HAVRE DE GRACE.

Havre de Grace, the western district of Caux in Upper Normandy, on the north side of the mouth of the Seine, forms a particular government.

Havre de Grace, Francipolis, Portus Gratiæ, one of the keys of the kingdom, is a very strong and regular town, composed of long and narrow streets, built by Francis I. who called it Ville Francois, in a flat marshy territory near the extremity of a valley at the mouth of the Seine, twelve leagues north-east of Caen, eighteen north north-west of Rouen, forty-six north-west of Paris. In the beginning of the sixteenth century, it consisted of a few fishing hamlets; at present it contains several churches and convents, an arsenal, magazines, a citadel, other public buildings, and 16,000 inhabitants. It is environed by a wall and ditch, and has a good harbour between the town and citadel, with a secure road for ships. The harbour has 20 feet of water at full sea, and may contain 600 vessels. In 1562 the town was surprised by the Huguenots, but recovered in the year following. It is a place of considerable trade. The neighbouring hills are covered with vines and villas. Two miles thence are two light-houses on a high perpendicular cliff. The lantern in each contains nine reflecting lamps. A sand, called the Legbank, extends west by north from the south-west point of the town, about four miles long and a mile in breadth. The little road, near a mile every way,

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is on the north of that sand, and south-east of a small sandy isle called L'Eclat. The great road is two leagues from the harbour, and west south-west from Cape la Heve. Amfar-bank, in the mouth of the Seine, seven or eight miles from west to east, and two miles in breadth, divides the passage of the river into two channels. On full and change days it is high water at 9 o'clock. The water in the harbour does not begin to ebb till 3 hours after the full tide, being confined by the current of the Seine.

Harfleur, Hareflorum, Auriflorium, a decayed town, containing 2,500 inhabitants, at the foot of a hill, with a bad port, near the mouth of the Lezarde, two leagues from Havre, sixteen west of Rouen, forty-four north-west of Paris. It was taken by the English A. D. 1415 and 1420; and its fortifications are demolished. A league hence, at Archer, are incrustations formed by a rill of water on some groups of rocks.

Montivilliers, Monasterium Vetus, an inconsiderable town with several suburbs, on the Lezarde, a league above Harfleur, two north of Havre, six north-west of Lillebonne. Its rich Benedictine abbey was established in 674.

Fescamp, or Fescan, Fiscamnum, a little old decayed town with suburbs, containing ten parish churches, three of which are without the walls, one abbey, two convents, one hospital, &c.; situate on a stream of the same name, in a valley 800 toises long and 200 broad, sometimes inundated, twelve leagues south-west of Dieppe, and fourteen north north-west of Rouen. Its Benedictine abbey was founded by Richard I. Duke of Normandy. The harbour is defended by two batteries.—There are two fathoms water in the haven's mouth at half flood, and anchorage near the western shore in three fathoms. At spring tides it is high water at half past ten o'clock.

21. MAINE AND PERCHE.

Maine and *Perche* are bounded on the north by Normandy, on the east by Orleanois, on the south by Orleanois, Touraine, and Anjou, on the west

west by Anjou and Bretagne; lying between 47° 40′ and 48° 40′ N. latitude, and between 1° 5′ W. and 1° 20′ E. longitude; being 20 leagues from north to south, and 35 from west to east. This country is tolerably fruitful, and contains mines of iron, marble quarries, and minerals of various qualities.

Rivers.—The *Mayenne*, Meduana, originates near the Limieres on the frontier of Normandy, runs southward, becomes navigable at Chateau-Gonthier, and falls into the Loire below Angers. The *Huisne*, Jognia, rises in the north-west corner of Perche, and flows south-east to the centre of that province, where it changes its direction to south-west, and loses itself in the Sarte on the border of Anjou. The source of the *Sarte* is in Normandy; in its progress southward to Mans, and south-west to the Mayenne at Angers, it is augmented by the Orne, Huisne, Enferne, &c.

The *Cenomanni* were inhabitants of this country in the time of Cæsar; and afterwards it was occupied by the Romans, Franks, and Normans. In the tenth century it came into the hands of Count Hugues, by whom it was transmitted to his posterity. Philip Augustus conquered Maine, and St Louis gave it to his brother Charles. It devolved by succession to Louis XI. A. D. 1481; and in 1584 was united to the crown of France.

Maine, divided into upper and lower, lies between 47° 40′ and 48° 30′ N. latitude, and between 1° 5′ W. and 1° 5′ E. longitude; being 16—20 leagues from north to south, and 28 from west to east.

Towns, &c. in Maine.—*Mayenne*, Meduana Juchelli, is a considerable ill built town, with a suburb, containing 7500 inhabitants, near the right bank of a river of the same name, 18 leagues north-west of Mans, 19 east north-east of Rennes, and 57 south-west of Paris. It was taken by the English A. D. 1424.

Ernée, a town containing a parish, a convent, an hospital, and 2000 inhabitants, on a stream of the same name, a league westward of Mayenne.

Lassay,

Lassay, an inconsiderable place on the border of Normandy, bathed by a small stream that falls into the Mayenne, 16 leagues north-west of Mans, and five north north-east of the capital.

Ambrieres, a market town on the Grete, three leagues north of the capital, near the mouth of the Varenne.

Evron, a market town, with a Benedictine abbey, four leagues south-east of Mayenne. Its fairs are frequented.

Sille le Guillaume, formerly a fortified town, now a decayed place with little trade, midway nearly between Mayenne and Mans.

Fresnay & Beaumont, on the Sarte, north-east of Sille, are places of little note.

Mamers, Mamerciæ, a market town on the Deve, nine leagues north north-east of Mans. In this place there was a temple consecrated to Mars, destroyed by St Louis. It contains 5,382 inhabitants.

Laval, Vallis Widonis, the principal manufacturing town in a district of the same name, containing three parishes, several suburbs, two priories, eight convents, and 14,000 inhabitants, situate in a valley on the Mayenne, near the confines of Anjou, six leagues southward of Mayenne, 18 westward of Mans, 16 east of Rennes, and 60 south-west of Paris. This walled town, governed by its own Counts since the eleventh century, was taken by the English in 1466, and retaken by the French in the year following. Its manufactures are cloths of various qualities, &c.

La Gravelle, a market town a few leagues west of Laval, on the frontier of Bretagne. In its neighbourhood the English were defeated A. D. 1424.

Le Mans, Cenomanum, Suendinum, Subdinum, the capital of Maine, and a bishop's see, is a tolerably built town with several suburbs, containing 16 parishes, a college, four abbies, eight religious houses, and 17,200 inhabitants, pleasantly situate on an eminence bathed by the Sarte above the influx of the Huisne, 10 leagues south of Alencon, 20 north

north north-west of Tours, 19 north-east of Angers, and 45 south-west of Paris. Under the reign of Charlemagne, this was one of the largest and most opulent towns in the kingdom. It is the birth-place of Jacques Pelletier, P. Bernard-Lamy, &c. The forest of Mans was the scene of that extraordinary phantom which is said to have appeared to Charles VI. of France, and which was the principal cause of his subsequent insanity.

La Suze, an inconsiderable town, six leagues below Mans, on the Sarte.

Sable, Saboloium, an old manufacturing town, containing 3000 inhabitants, and formerly fortified, near the border of Anjou, at the conflux of the Herve and Sarte, 11 leagues south-west of Mans, and 12 north-east of Angers.

St Suzanne, formerly a strong place, now a small town, near the Herve, 11 leagues west of Mans.

Conlie, a market town, near Sille, four leagues north-west of Mans.

Bonnetable, formerly called Maletable, a little town with some trade in grain, six leagues north north-east of Mans.

Ballon, or Ballan, at one period one of the most considerable fortresses in the country, now a little town five leagues north of Mans, on the right bank of the Orne, near its influx into the Sarte.

La Ferte Bernard, a little walled town defended by a castle, with three suburbs, containing three parishes, one abbey, two convents, one hospital, nine leagues north-east of Mans, on the Huisne, near the border of Perche. It is the birth-place of Rober Garnier a poet.

Connerre, a market town on the left hand of the Huisne, below La Ferte, opposite nearly to Monfort.

Vibrais, Vicus Braiæ, a market town containing 1100 inhabitants, eight leagues east of Mans, near the confines of Perche.

St Calais, Carilesi Oppidum, a small town, with a noted Benedictine abbey, eight leagues south-east of Mans, four south of Vibrais, six

north-west of Vendome, on the Anille a stream that runs south to the Braye.

Chateau du Loir, Castrum Lidi, the capital of Vaux du Loir, a town containing 2000 inhabitants, situate on an eminence near the Loir, eight leagues south south-east of Mans. This place held out a seven years siege against Herbert Count of Mans.

PERCHE lies between 48° and 48° 40′ N. latitude, and between 0° 20′ W. and 1° 20′ E. longitude; being 16 leagues from north-west to south-east, and 12 in breadth. It was anciently covered with a forest called Saltus Pertius. Several elevated tracts are sterile; but the plains and vallies are fertile, yielding grain, fruit, and pastures. There are some iron mines and mineral springs. One district, called Timerais, is included in Isle de France; and another, viz. Perche Gouet, is annexed to Orleanois.

Towns, &c.—Mortagne, Castrum Mauritaniæ, Moritania Pertici, the capital, anciently a strong place, now a town with several suburbs containing 6000 inhabitants, on a hill bathed by the river Huisne, near the border of Normandy, seven leagues eastward of Seez, and nine north-east of Alençon. In it are some manufactures of coarse linen. Its environs contain good quarries of stone and mineral waters. The forest of Perche, near the town, includes 3900 acres.

La Trappe, a Cistercian abbey, founded A. D. 1140, consecrated in 1214, and celebrated for the extraordinary austerity of its monks, in a sequestered and solitary valley surrounded by hills and forests, near the northern extremity of the province, five leagues east of Seez, three north of Mortagne, and 22 south-west of Paris.

Bellesme, formerly the capital of Perche, and, under St Louis, one of the strongest places in Europe, now a small town containing 2,500 inhabitants, with an old castle, four leagues south of Mortagne. In the

neighbouring forest is a mineral spring called Herse, of a ferruginous quality; and in that forest two ancient inscriptions were found.

Nogent le Rotrou, Novigentum Rotroci, a populous market town, with a Benedictine priory and two convents, on the Huisne, 12 leagues south-east of Alençon, and 12 north-east of Mans. It contains upwards of 6,800 inhabitants.

Corbon, a small but formerly a strong place, on the Huisne, two leagues south-east of Mortagne.

Mauves, a mean town, a few miles south south-east of Mortagne, and bathed by the Huisne.

La Tour Grise, formerly a considerable fortress, now the mean capital of a district called the French Country.

Timerais, or Thimerais, in the middle age Theodoremensis Ager, a district of Perche, now united to the military government of Isle de France, and watered by the Arre and the rapid Meuvette, contains Chateau-neuf, a little town near the north-extremity of Perche, 23 leagues north north-east of Mans, and 12 south of Evreux.

22. ORLEANOIS.

Orleanois is bounded on the north by Normandy and Isle de France, on the east by Isle de France, on the south by Nivernois, Berri, and Touraine, on the west by Maine and Perche; lying between 47° 15′ and 48° 40′ N. latitude, and between 0° 35′ W. and 3° 30′ E. longitude; being 33 leagues from north to south, and 42 from west to east.

This government includes Orleanois Proper, Sologne, Blaisois, Beauce, Dunois, Vendomois, most part of Gatinais, and Perche Gouet.

Rivers.—The *Loire* traverses Orleanois Proper and Blaisois. The *Cher* originates in Combraille, Auvergne, runs westward along the south boundary of Blaisois, and falls into the Loire below Tours. The *Loir*, from

from the eastern border of Perche, flows south and south-west, through Dunois and Vendomois, and loses itself in the Sarte above Angers. The *Eure* waters the north part of Chartrain. Many small streams have their sources in the forest of Orleans. *Gatinois* abounds in lakes and rivulets, the most considerable of which is the *Loin*, that rises near the south-east extremity of that country, runs northward, and falls into the Seine near Fontainbleau.

The canal of Briare, begun in the reign of Henry the Great, reaches from Briare on the Loire, northward to the Loing near Montargis, and thence along the bank of that river to the Seine. The canal of Orleans, from a few miles above the capital, extends north-east 18 French leagues to the Loing below Montargis. It contains 30 sluices, was begun A. D. 1682, and finished in 1692.

Orleanois Proper, anciently covered with woods, now one of the most fertile districts in the kingdom, is bounded by Upper Beauce, Gatinois, Sologne, Dunois, and Vendomois. Divided into Upper and Lower by the river Loire, it yields abundance of grain, wine, excellent fruits, and pastures. The forest, north of the capital, is 15 leagues in length, and 2—5 in breadth.

Cities, &c.—Orleans, Aureliana Civitas, Cenabum, Genabum, the capital of the province, a bishop's see, anciently the royal residence of the Merovingian line, and the seat of five councils, is a large and indifferently built city, containing a cathedral of excellent Gothic workmanship with a handsome spire, 22 parish churches, 23 religious houses, an university of no repute, a literary society, and 36,000 inhabitants, pleasantly situate at the foot of a declivity bathed by the Loire; 13 leagues north-east of Blois, 25 north-east of Tours, and 24 south south-west of Paris. Without including several suburbs, the city is 2,396 toises in circuit, formerly environed by a wall and ditch. It is the birth-place of King Robert, A. D. 971, Jac. Bongarsius, Stephen Dolet, Dion. Petavius, &c. The mall is an agreeable public walk 2,890 feet in length. There

is a fine stone bridge of 16 arches over the Loire. This city has some traffic in corn, wine, and brandy; its manufactures are cloth, stockings, refining of sugar, &c. To the north lies an extensive forest. The country thence to Paris is flat and uninteresting.

Gergeau, Gurgollum, or Gurgorilum, a little town above Orleans, on the Loire; taken by the English A. D. 1428, and recovered by the Maid of Orleans.

Sully, a town containing 2500 inhabitants, and the birth-place of Maurice Sully in the 12th century, above Gergeau, on the Loire, ten leagues south-east of the capital.

Clery, a small manufacturing market town, built by Louis XI. who lies interred here, near Mehun, on the left hand of the Loire.

Mehun, a town containing upwards of 3000 inhabitants, on an eminence bathed by the Loire, five leagues south-west of Orleans. Its castle was destroyed by the Vandals about the year 409.

Beaugency, Balgentiacum, a small trading town, and the seat of two councils, viz. in 1104 and 1152, on an eminence bathed by the Loire, a league below Mehun. Its abbey was founded toward the conclusion of the eleventh century. A tower of its ancient castle remains. The environs abound in good wine. It contains about 4,000 inhabitants.

Janville, a little market town, a league from Toury, and eight leagues north of the capital.

Pethiviers, or Pluviers, Castrum Piveris, a small town of 3000 inhabitants north-east of Orleans, near the forest, on the Oeuf a stream that runs northward to the Seine, seven leagues south south-east of Estampes, ten north-west of Montargis, and 18 south of Paris.

Blaisois, bounded by Beauce, Orleanois Proper, Berri and Touraine, abounds in grain, wine, fruits, and pastures, and is watered by several rivers.

Blois, Blesæ, Castrum Blesense, the capital of Blasois, is an old trading town, and formerly a bishop's see, containing three abbies, eight convents, other public buildings, and 13,000 inhabitants, situate partly on an eminence

eminence and partly in a plain on the right bank of the Loire, 10 leagues south-west of Orleans, 9 north-east of Tours, 38 south-west of Paris. It is the birth-place of Morin, Vignier de l'Oratoire, Jo. Bernier, &c.— In the castle, or palace, which stands on a rock, Louis XII. was born, and the Duke of Guise was murdered. There is a bridge of seven arches on the Loire, and many vineyards in the neighbourhood. The manufactures of Blois are gloves, stockings, knives, &c.

Chambor, Camborium, a royal palace of Gothic construction, built by Francis I. in a park environed by a wall seven leagues in circuit, a few leagues north-east of Blois, on the left hand of the Loire, containing, it is said, 1,200 large, and 400 smaller apartments. It is now in a state of decay.

Mer, a market town in the marquisate of Menars, a league from the right bank of the Loire, four leagues north north-east of Blois. In its vicinity there is a handsome seat on an eminence environed by terraces and gardens.

Sologne, is a district south of the Loire, watered by several small streams, and diversified by woods, meadows, and cultivated fields. This is one of the poorest and most unimproved districts in the kingdom.

Romorentin, Rivus Morentini, an old manufacturing town, containing about 6,000 inhabitants, and the birth-place of Claude Pajon, at the influx of the Morentin into the Saudre, 18 leagues east of Tours, and 43 southward of Paris. Its principal manufacture is coarse cloth for the army.

Salbriz, Saleræ Bria, or Briva, a town containing about 6,000 inhabitants, on the Saudre, six leagues above, i. e. N. N. E. of Romorentin.

Ville-Franche, on the Cher, south of Romorentin ; *Meneton* above, and *Chatillon* below Ville-Franche, are places of little note.

Vendomois, bounded by Perche, Touraine, Blaisois, and Maine, is a level and fertile district watered by the Loir.

Vendome,

Vendome, Vendocium, the capital of Vendomois, is a town containing an abbey, several churches and convents, and 7,500 inhabitants, on the right bank of the Loire, seven leagues north north-west of Blois, and thirty-seven south-west of Paris. It was taken and plundered by Henry IV. in 1586. Here a royal military school was established A. D. 1776. It is the birth-place of Louis Prince of Conde, of Jean Baptiste Souchay, and of Rosard a poet.

Roches l'Eveque, below Vendome, and *Montoir*, Mons Aureus, below Roches, are inconsiderable places on the Loir; *Lidericus*, a river that originates in Perche, in its progress south and south-west bathes Illiers, Chateaudun, Claye, Vendome, Montoire, Fleche, Duratel, and loses itself in the Sarte at Briole, above the island of St Aubin and Angers.

Chateau-dun, Dunum, the capital of Dunois a fruitful district, is a regularly built town, containing an Augustine abbey, three convents, several churches, and 6,000 inhabitants, on an eminence bathed by the Loir, 13 leagues north of Blois, and 11 north-west of Orleans.

Bonneval, a little town in a fertile valley watered by the Loir, four leagues north of Chateau-dun. In an adjacent island there is a Benedictine abbey.

Patay, a mean town containing 600 inhabitants, six leagues east of Chateau-dun, and as far north north-west of Orleans. In its neighbourhood the English were defeated in 1429.

Marchenoir, a small town seven leagues south of Chateau-dun, and eight south-west of Orleans, on the border of Blasois, near a forest of the same name, containing 4,230 acres of woodland.

Beauce, also called Pays Chartrain, the northern division of the government, lies between Perche, Isle de France, Orleanois Proper, and Blaisois. It consists of level plains, and is fruitful in grain.

Chartres, Autricum, Civitas Carnutum, the capital of Chartrain, is an old town with narrow streets, divided into two parts by the Eure, containing a fine cathedral, several parishes and religious houses with four suburbs,

suburbs, and 14,000 inhabitants, situate partly on an eminence, sixteen leagues N. N. W. of Orleans, and seventeen south-west of Paris. It is the birth-place of Andrew Felibien, J. B. Thiers, Pierre Nicole, J. Claude, Regnier, &c. Its manufactures are serges, tanning of hides, &c.

Maintenon, a market town of 200 houses, four leagues northward of Chartres, in an agreeable valley watered by the Eure. This place conferred the title of a marquisate on the female favourite of Louis XIV. This prince undertook a magnificent aqueduct to convey water from Maintenon to Versailles, but the plan did not succeed, and the work was left unfinished.

Nogent-le-Roi, a little town in a valley, on the Eure, five leagues northward of Chartres.

Gaillardon, on the Voise, a few leagues south-east of Maintenon; *Sours*, near the centre of Chartrain; and *Illiers*, near the source of the Loir, five leagues south south-west of Chartres; are places of little note.

The district of *Gatinois*, in the north-east corner of the government, is diversified with meadows and cultivated fields, yielding grain, excellent saffron, and pastures.

Montargis, Mons Argisus, the capital of Gatinois, is a small handsome town, containing several churches and convents, with an old castle built by Charles V. and 6,400 inhabitants, at the foot of an eminence near the Loing, 7 leagues south of Nemours, seventeen eastward of Orleans, 20–26 north north-west of Nevers, twenty-five south of Paris. In its neighbourhood is a forest of 8,300 acres. The canal of Montargis is a continuation of that of Briare, joining the Loire to the Seine.—This work, begun by the Duke of Sully, was, after various interruptions, completed A. D. 1720. Montargis is the birth-place of Madam Guyon.

Estampes, Stampæ Castrum, formerly the seat of five councils, a town containing five parishes, six convents, an hospital, and 7,786 inhabitants, on the river Juine, near the border of Isle de France, twelve leagues east of Chartres, fourteen north-east of Orleans, and eleven south of Paris.

Chattillon,

Chatillon, a little town containing 2,000 inhabitants, in a pleasant valley on the Loing and the canal of Briare, four leagues southward of Montargis. At some distance there is a castle, or seat, in whose chapel is the tomb of the celebrated Admiral Coligny.

Gien, a town containing one collegiate church, three convents, and about 4,000 inhabitants, on the Loire, three leagues below Briare, 13 south-east of Orleans, and thirty-two south south-east of Paris.

Briare, Brivodorum, a small town consisting of one long street, a thoroughfare to Lyon, on the Loire, three leagues above Gien, thirteen south-east of Orleans, thirty-five southward of Paris. This place gives its name to a canal that unites the Loire and the Seine.

St Amand, a town containing 2,000 inhabitants, six leagues south-east of Briare, near the south border of Gatinois.

23. NIVERNOIS.

Nivernois, Provincia Nivernensis, is bounded on the north by Orleanois and Auxerrois, on the east by Bourgogne, on the south by Bourbonnois, on the west by Bourbonnois and Berri; lying between 46° 45′ and 47° 35′ N. latitude, and between 2° 55′ and 4° E. longitude; being 15 leagues from north to south, and 20 from west to east; containing 273,890 inhabitants.

This province, of an oval form, is tolerably fertile, yielding grain, wine, fruits, and pastures. It contains pit-coal, iron mines, and mineral springs. Several of the streams by which it is watered have their sources near the middle of the country. Three of its rivers are navigable, viz. the Loire, the Allier, and the Yonne. The two former unite below Nevers, and flow north-west along the confines of Berri. The Yonne originates near the south-east border, and proceeds north-west to the Cure, into which it falls in Auxerrois.

Nivernois is divided into eight districts or cantons, viz. Les Vallies de Nevers, Arnognes, Vallies de Montenoison, Vallies d'Yonne, Morvan, Bazois, the territory between the Allier, the Loire, and the Donziois. In soil, culture, and produce, this province resembles Bourbonnois.

The Vallies of Nevers produce grain, wine, wood, and pastures.

Nevers, Noviodunum and Nivernum, the capital of the province, is an ancient, considerable, manufacturing, and trading town, containing a cathedral, 11 parish churches, 2 abbies, several convents, an old ducal palace, and 10,100 inhabitants; situate in the form of an amphitheatre, on a declivity at the conflux of the Nievre and Loire, a league above the junction of the Loire and Allier, 14 leagues south-east of Bourges, 33 south-east of Orleans, 34 west south-west of Dijon, 50—55 south south-east of Paris. The streets are narrow, and few of the houses are handsome. This place is famous for its porcelain, glass-works, and enamels. The environs are agreeable.

Charite, a town containing a rich Benedictine priory, founded about the year 700, a Benedictine convent, and upwards of 3500 inhabitants, on the declivity of a hill bathed by the Loire, five leagues northward of Nevers, and 11 east of Bourges. Its manufactures are metal buttons, arms, &c.

Pougues, a village noted for a mineral spring of a ferruginous quality, at the foot of a hill, two leagues north north-west of the capital.

The district called *Arnognes* is abundantly fertile, but contains neither town nor village except Montigny. It yields grain, pasture, and wood.

Premery, a little town situate in the valley of Montenoison, five leagues north north-east of Nevers.

Montenoison, an old castle in a parish of the same name, near the foot of a hill, and the centre of the province.

The district of *Vallies d'Yonne* is a fruitful tract, watered by the river of the same name. To it belongs Clamecy.

Clamecy, Climiciacum, the birth-place of De Piles, and a town containing upwards of 5,000 inhabitants, in a valley, at the confluence of Beuvron and the Yonne, seven leagues south of Auxerre. Its suburb had a bishop under the name of Bethlehem.

Vezelai, Viceliacum, a little town on the brow of a hill of difficult access, near the Eure, four leagues north of Avalon, ten south of Auxerre, 16 north north-west of Autun, 15 north-east of Nevers, 47 south-east of Paris. This is the birth-place of Theodore Beza. An abbey was founded here in the 9th century, and secularized in 1538. It was the seat of a council A. D. 1146, and is noted for a mineral spring.

Corbigny-St-Leonard, Corbiniacum, a little town, with a rich Benedictine abbey, on a small stream that falls into the Yonne, five leagues south south-east of Clamecy, five south of Vezelai, ten north-east of Nevers.

Chateau-Chinon, Castrum Caninum, a manufacturing town, containing 3000 inhabitants, on a declivity near the source of the Yonne, in the hilly, dry, and barren district of Morvan, 13 leagues eastward of Nevers, and 4 north-east of Moulins. This place has a considerable trade in linen-cloth, leather, wood, and wool.

Decise, a small town with an old castle, a priory, and two convents, on a rocky island near the conflux of the Airon and Loire, in *Bazois*, a district consisting of vallies lying along the hills of Morvan, and abounding in wood and pasturage, eight leagues from Nevers, and 55 south-east from Paris.

St Pierre-le-Moutier, a small place seven leagues southward of Nevers, in a marshy and unhealthy valley among the hills, in the district between the Allier and the Loire.

Ferte-Chaudéron, on the right bank of the Allier, four leagues from Moulins; and *Dorne*, on the frontier of Bourbonnois; are two inconsiderable places.

Donziois,

Donziois, is a canton diversified with fruitful fields, meadows, and forest, containing iron mines, in the north-west corner of the province.

Donzi, a small, flourishing, trading town, containing a collegiate church, a priory, a convent, and an hospital, on the Nohain, nine leagues north of Nevers.

Cosne, Conada Vicus, a manufacturing town, containing 4,700 inhabitants, on the left bank of the Loire, at the influx of the Nohain, seven leagues south south-east of Briare, 10 north north-west of Nevers, 21 south-east of Orleans. Its environs abound in iron mines, and its cutlery ware is esteemed.

Entrains, or Antrain, Interamnis, among lakes, five leagues north-east of Cosne; and *Dreve*, in the north corner of the province; are places of little note.

24. BOURBONNOIS.

BOURBONNOIS, a province of a very irregular form, is bounded on the north by Berri and Nevernois, on the east by Bourgogne and Forez, on the south by Auvergny, on the west by Marche and Berri; lying between 46° and 47° north latitude, and between 2° 20′ and 4° 0′ east longitude; being 13 leagues from north to south, and 27 from west to east.

Tolerably fertile, it yields grain, fruit, wood, and pastures, and abounds in coal pits, iron mines, and mineral springs. The predominant soil is gravel on a calcareous bottom.

The most considerable rivers which traverse this country from south to north, are the Chez, the Loire, and the Allier, already described.

This province, in the middle age, was governed by its own lords; in the reign of Francis I. it was forfeited, and annexed to the crown; and

in 1659 was given to Louis de Bourbon in lieu of the dutchy of Albret.

Towns, &c.—Moulins, Molinæ, the capital, is an indifferently built, walled town, with broad and well paved streets, containing several parishes, 15 religious houses, and 13,200 inhabitants, pleasantly situate in an extensive plain, on the left bank of the Allier, almost in the centre of the kingdom, 11 leagues south of Nevers, 22 north north-east of Clermont, 60--65 south south-east of Paris. This town is famous for its medicinal waters, and for its hardware.

Bourbon d'Archambaud, or Bourbon-le-Bains, a little tolerably built town, in the department of the Allier, containing one parish church, a priory, a convent, two hospitals, and 2,000 inhabitants, in a valley environed by four hills, on one of which is an old castle, near the Allier, five leagues west of Moulins. It is noted for its hot baths and mineral springs.

Le Veurdre, or Aveurdre, a small place on the Allier, five leagues south south-west of Nevers, and six north north-west of Moulins.

St Amand, a town containing 5,043 inhabitants, on the Cher, eight leagues south of Bourges, 15 north-west of Moulins, 13 south-west of Nevers.

Herisson, a little town between five hills, near the Cher, on the torrent d'Oevil, five leagues from Bourbon.

Huriel, a market town on an eminence, environed by vineyards and pastures, two leagues north-west of Mont-lucon.

Mont-lucon, Mons Lucionis, the birth-place of Petit, a mathematician, a small town surrounded by walls flanked with towers, containing three churches, four convents, an hospital, and 4,400 inhabitants, with several suburbs, on a declivity that extends to the Cher, fifteen leagues south-west of Moulins. Its environs are agreeable, but thinly inhabited.

Gannat,

Gannat, a town containing about 2,000 inhabitants, in a fertile and pleasant territory, 12 leagues south of Moulins, near the border of Auvergne.

Neris, Aqua Neri, a decayed market town on a rock, noted for its warm baths, and for some vestiges of antiquity, one league from Montlucon.

Vichy, a small town, commodiously situate for trade, and frequented for its mineral springs and baths, on the Allier, 11 leagues south of Moulins, and three eastward of Gannat. Its environs are fruitful and agreeable.

Chateldon, a small town at the foot of several cultivated hills by which it is environed, and near a frequented mineral spring, half a league east of the Allier, eight leagues north-east of Clermont, and fifteen south of Moulins.

Palisse, or *Palice*, a marquisate seat, and little town, containing 1,800 inhabitants, on the Besbre, eight leagues south south-east of Moulins, in the route from Paris to Lyon, and noted for its fairs.

Jaligny, an inconsiderable place, five leagues south south-east of Moulins, on the Besbre, a small stream that falls into the Loire.

25. LYONNOIS.

Lyonnois, Pagus Lugdunensis, is bounded on the north by Bourgogne and Maconnois, on the east by the Saone and the Rhone, on the south by Languedoc, on the west by Auvergne; lying between 45° 15′ and 46° 15′ N. latitude, and between 3° 45′ 4° 50′ E. longitude; being 24 leagues from north to south, and 16 from west to east.

Indifferently fertile, yielding grain, wine, and fruits, it is watered by the Rhone, the Saone, and the Loire. The course of the two former is from north to south, and that of the Loire from south to north.

Annexed

Annexed to the crown of France in 1563, this government consists of three small provinces, viz. Lyonnois Proper, Forez, and Beaujolais.

Lyonnois Proper, thirteen leagues in length and eight in breadth, is diversified with hills, gentle eminences, and plains. It yields little grain, but some districts produce good wine, and excellent pasturage. It contains a copper-mine, and a mineral spring.

Cities, &c.—Lyon, Lugdunum, the capital, an archbishop's see, the seat of several councils, and the chief city in the kingdom for trade, is large and indifferently built, containing six gates, twenty-eight divisions, a cathedral a superb structure, fourteen parishes, four abbies, twenty-seven convents, an academy of sciences instituted A. D. 1700, and an academy of fine arts established in 1724, both of which were united in 1758, two hospitals, an Hotel de Ville one of the finest in Europe, an exchange remarkable only for the multiplicity of business transacted there, an arsenal well stored with military implements, three forts, one of which is garrisoned, an infirmary 560 feet in length, many other public buildings, with four suburbs and 109,500 inhabitants. It is situate at the confluence of the Rhone and the Saone, five leagues north of Vienne, 21 north-west of Grenoble, 33 south-west of Geneva, 42 south of Dijon, 57 north-west of Turin, 100 south-east of Paris. It is the birth-place of M. M. Terrasson, De Boze, Spon, Chazelles, Fruchet, Claude Ponteau, &c. and is noted for its manufactures of gold, silver-stuffs and laces, the number of which is now greatly diminished. In it many monuments of antiquity have been discovered. There are two bridges over the Rhone, and three on the Saone. The environs of this city are wild and romantic, yet highly cultivated, populous, and decorated with villas.

Anze, Antium, a little old town and the seat of four councils, 250 paces from the right bank of the Saone, opposite to Trevoux, in a fertile tract, four leagues north of Lyon.

Condrieux,

Condrieux, a handsome town, containing one parish church, two convents, and upwards of 2000 inhabitants, seven leagues south of the capital, at the foot of a hill near the bank of the Rhone. Its environs are noted for excellent white wine.

Chavanay, an inconsiderable place, a league below Condrieux, near the south border of Lyonnois.

St Chamond, with a strong castle, *Rive de Giez*, *Genis-laval*, *La Bresle* four leagues west of Lyon, and partly destroyed by an inundation of the Tardine in 1715, and *Chasselay*, three leagues north-west of Trevoux, are places of little note in this province.

Forez consists principally of an extensive and fruitful valley, yielding grain, wine, hemp, and chesnuts, and watered by the Loire and other streams.

Mont Pilat is an elevated ridge, extending six leagues from north to south, and in some parts 500 toises above the level of the Rhone, containing mines of iron and coal, and covered with forests, rocks, and pastures.

Montbrison, Mons Brisonis, the capital of Forez, a town containing several churches, convents, and 4,700 inhabitants, in a fertile plain, on the Vezize, at the foot of a hill, 14 leagues south-west of Lyon, and 100 south-west of Paris. This place is almost destitute of trade and industry. In its neighbourhood are the frequented mineral springs of Moin.

Feurs, Forum Segusianorum, a little town, formerly more considerable, 300 paces from the right bank of the Loire, ten leagues south-east of Roanne, ten south-west of Lyon, about ninety-six south-east of Paris. It is the birth-place of Joseph Guichard-du-Verney a celebrated anatomist. A league hence, at the foot of a rock called Dinzy, is a mineral spring of a sulphureous quality.

St Galmier, an inconsiderable town, on an eminence, near the Loire. In the vicinity of its suburb is a spring called Fonte-forte, whose taste resembles that of wine, and is salubrious and purgative.

St

St Estienne de Furens, a considerable town, and a place of great trade in hard-ware, arms, &c. containing 16,300 inhabitants, on the river Furens, near the south border of the province, nine leagues south-east of Feurs, 13 south-west of Lyons, 106 southward of Paris. There are inexhaustible coal-mines in its neighbourhood.

St Rambert, a small, thinly inhabited town, on the Loire, four leagues south-east of Montbrison, and three from St Estienne.

Roanne, Rodumna, an old, considerable, tolerably built, trading town, containing 6,900 inhabitants, and the staple for all goods sent from Lyon to Paris, Orleans, &c. on the Loire, which here becomes navigable, 10 leagues from Feurs.

Beaujolois is a fertile district, twelve leagues in length, and seven in breadth.

Ville-Franche, the capital of Beaujolois, founded in the beginning of the 12th century, is a small, well built town, consisting chiefly of one handsome street, fortified with a wall and ditch, containing 8,000 inhabitants, in a fertile plain, on the rivulet Morgon, and near its influx into the Soane, seven leagues north north-west of Lyon, eight south of Macon, and 93 south south-east of Paris. It is the seat of an academy of fine arts established in 1679, and the birth-place of Jean Baptist Morin, and of Claude Bourdelin.

Beaujeu, formerly the capital, now a considerable market town, at the foot of a hill, on whose summit is an old castle, on the Ardierre a stream that runs eastward to the Soane.

Belle-ville, a little manufacturing town, containing two convents and an Augustine abbey founded A. D. 1159, in a fruitful tract watered by the Ardierre, five leagues south of Macon, and three from Ville-Franche.

St Symphorien, eleven leagues north-west of Lyon, and *Bourg de Thizy*, are small towns in the western part of Beaujolois.

26. AUVERGNE.

AUVERGNE, Arvernia, Alvernia, so called from its ancient inhabitants, is bounded on the north by Borbonnois, on the east by Forez, on the south by Languedoc and Guienne, on the west by Quercy, Limosin, and Marche. It lies between 44° 45′ and 46° 25′ north latitude, and between 2° 10′ and 3° 55′ east longitude; being 35 leagues from north to south, and 23 from west to east. The hills in Upper Auvergne contain mines of iron, lead, antimony, and coal, with mineral springs. The highest mountain is Puy de Dome, and near it is a deep lake. Mount Cantal, Calticus, is 684 toises in height, or 126 less than Puy de Dome. Lower Auvergne, one of the most temperate and fertile territories in Europe, abounds in grain, wine, fruits, and good pastures.

Rivers.—The *Allier* originates in Gevaudan, runs northward through the whole extent of the province, receives many streams on the right and left, becomes navigable at Viale, and falls into the Loire a few miles below Nevers. The *Dordogne* rises in Mont d'Or, flows westward through the southern part of Auvergne, traverses Guienne, and loses itself in the Garonne at Bec d'Ambes near Bourg-sur-mer. The source of the *Allagnon* is in Mont Grieu, near Cantal; thence it runs northeast with rapidity to the Allier. The *Sioule* rises at no great distance from the springs of the Dordogne, and proceeds northward to the Allier, into which it falls beyond the northern frontier of the province.

Towns, &c. in Upper Auvergne.—*St Flour*, Fanum St Flori, the capital and a bishop's see, is a manufacturing town, with some trade in grain, containing 5000 inhabitants, situate partly on a hill of difficult access, 20 leagues southward of Clermont. Its carpets, cloth, and knives are esteemed.

Chaudes Aigues, Aquæ Calidæ, a little town so called from its warm mineral springs, five leagues south-west of St Flour.

Murat, Muratum, a small manufacturing town, of 2,570 inhabitants, inhabited chiefly by braziers and lace-makers, five leagues north-west of St Flour, at the foot of a rock bathed by the Alagnon, a stream that runs north-east to the Allier.

Mauriac, Mauriacum, a little town of 2500 inhabitants, in a hilly district, about ten leagues westward of Murat, not far from the Dordogne and the border of Limosin. It is the birth-place of Abbé Chappe.

Aurillac, Aureliacum, a considerable well built populous town, containing one abbey secularized, several churches and religious houses, with three suburbs, and 10,000 inhabitants, in a valley watered by the Jordane, 12 leagues westward of St Flour. It is the birth-place of Pope Silvester II. William bishop of Paris, Marechal de Novilles, &c. Its manufactures of tapestry and lace are in some estimation. In a suburb there is a castle on a rock.

Carlat, a little town formerly defended by a strong castle, a few leagues south-east of Aurillac, between the Cere and the Gou, near the southern boundary of the province.

Vic en Carladez, a considerable market town, noted for a mineral spring impregnated with vitriol, on the Cere, at the foot of Mount Cantal, eight leagues westward of St Flour.

Mount Salvy, a little town noted for its green peas, 13 leagues from St Flour, in the south-west corner of the province.

Salers, on a hill between Murat and Mauriac, *Alanche*, in a valley, and *Lastié*, five leagues north-east of St Flour, are inconsiderable places in Upper Auvergne.

LOWER AUVERGNE, includes the valley of Limagne, watered by the Allier.

Towns,

Towns, &c.—Clermont, Arverna, Claromons, Nemossus, the capital of the whole province, and a bishop's see, is a large but indifferently built town, with narrow streets, containing a cathedral, many religious houses, a literary society established A. D. 1741, and 27,000 inhabitants; situate in an agreeable territory, on a gentle eminence, and at the foot of a hill, between the rivers Allier and Bedat, 18 leagues north of St Flour, and 31 west of Lyon. It is the birth-place of Blaise Pascal, and was the seat of several councils. In its environs are mineral and petrifying springs. A league hence is Pui de Dome, one of the highest hills in Auvergne, being 810 toises above the level of the plain.

Montferrant, formerly a strong place, now a little town on a hill, a mile from the capital.

Riom, Ricomagus, a considerable, tolerably built town, consisting principally of two streets, containing 13,000 inhabitants, on a rising ground, three leagues north-east of Clermont, 20 south south-west of Moulins, 90 south of Paris. It is noted for its mineral waters, and for being the birth-place of Gregory of Tours, Gilbert Genebrand, Jacques Sirmond, &c. Its environs are styled the Garden of Auvergne. The town is built of lava, on a rocky soil.

Aigueperse, Aqua Sparsa, a little town consisting of one street, the capital of a dukedom, in a fine plain watered by the Luzon or Beuron, eight leagues north of Clermont, and 83 southward of Paris. It is the birth-place of Michel l'Hopital and of Messrs de Marillac. In its neighbourhood is a spring having a continual ebullition; and at some distance are the ruins of the castle of Montpensier on an eminence.

Beaumont, a small place on an eminence, noted only for a Benedictine abbey, in a fertile tract, a few miles south of the capital.

Riz, a little town with a Benedictine priory, on the Allier, in a territory yielding excellent wine.

Thiers, or Thiern, a populous, manufacturing, trading town, containing 10,605 inhabitants, 10 leagues north-east of Clermont, on a steep

declivity bathed by the Durolle a rivulet that falls into the Dore. Its manufactures are paper, ribbons, thread, &c.

Ambert, a manufacturing town in Livradois, containing 5,900 inhabitants, on the Dore, several leagues from Clermont.

St Pourcain, a town containing three convents, an hospital, and a Benedictine priory, about 13 leagues northward of Clermont, on the left hand of the Allier.

Cusset, a walled town, containing 3,000 inhabitants, with a Benedictine abbey, in a fertile tract, half a league from the right bank of the Allier, 10 leagues south of Moulins, and 10 north north-east of Clermont.

Ebreuille, a market town and Benedictine abbey, eight leagues north of the capital, on the Scioule, in a territory yielding grain, hemp, wine, and fruits.

Pont du Chatel, or Chateau, Pons Castelli, a flourishing little town and marquisate, on the Allier, about three leagues eastward of Clermont.

Lesou, a small old town in a pleasant and fruitful tract, about a league from Pont du Chatel.

Besse, a little market town on a rivulet, six leagues south of Clermont, to the eastward of Mont d'Or.

Issoire, Issiodurum, an old and small town, containing 5,000 inhabitants, a Benedictine abbey, in a plain seven leagues south south-east of Clermont, near the influx of the Crouse into the Allier. It is the birthplace of Cardinals Boyer and Duprat.

Vic le Comte, an inconsiderable place, formerly the residence of the Counts of Auvergne, near the Allier, below Issoire. In its vicinity are four mineral springs.

Sauxillanges, Celseniatas, a town containing a Benedictine priory founded A. D. 907, and upwards of 2,000 inhabitants, on a rivulet that runs into the Alier.

Usson,

Usson, a mean and thinly inhabited town, formerly noted for a strong castle on a rock of difficult access, between Saux Ilanges and the Allier, a few miles south-east of Issoire. This castle was demolished A. D. 1634.

Ardes, a little town, nine leagues south of Clermont, at the foot of Luguet, opposite to Mercoeur.

Brioude, Brivas, an old town, which, including another town of the same name, contains 5,300 inhabitants, on the Allier, 15 leagues south south-east of Clermont. There is a bridge over the river, consisting of a single arch, 195 feet from the one extremity to the other, supposed to be a Roman structure.

La Chaise-Dieu, Casa Dei, a small manufacturing town, with a Benedictine abbey, founded A. D. 1046, five leagues eastward of Brioude.

Orcival, a small place near Mont d'Or. Its mineral waters and baths are frequented; and reckoned preferable to all others in France.

27. LIMOSIN.

Limosin, or Limousin, so called from the Lemovices its ancient inhabitants, is bounded on the north by Marche and Poitou, on the east by Auvergne, on the south by Quercy, on the west by Perigord and Angoumois; lying between 45° and 45° 55′ N. latitude, and between 0° 55′ and 2° 35′ E. longitude; being 23 leagues from north to south, and 26 from west to east.

The soil of this country is various. Upper Limosin is cold, hilly, and barren, containing mines of lead, copper, tin, and iron. Lower Limosin is more temperate and fertile. Hill, dale, wood, inclosures, streams, lakes, and scattered farms are mingled into a thousand delicious landscapes, which render this province the most interesting in France. By Henry IV. it was reunited to the crown. It is governed by the Roman law, and under the jurisdiction of the parliament of Bourdeaux.

Rivers,

Rivers.—The *Vezere* originates near the north boundary of Upper Limosin, flows south-west through the middle of the province, and enters Perigord near Terrasson. The source of the *Correse* is near a town of the same name, and its termination is in the Vezere at Brive. The *Vienne* waters the north-west, and the *Dordogne* the south-east districts of the province.

Upper Limosin, *i. e.* the north-west division, contains the following places.

Limoges, Lemovicæ, the capital and a bishop's see, is a considerable, indifferently built, trading town, with narrow and dirty streets, surrounded by a wall 4000 geometrical paces in circuit, containing a cathedral, an episcopal palace, 13 parishes, five abbies, 21 convents, an hospital, and 20,500 inhabitants; situate partly on an acclivity and partly in a valley, watered by the rivulet Vierre, in the north-west corner of the province; 20 leagues north north-east of Perigueux, 28 south-east of Poitiers, and 44 north-east of Bourdeaux. It is the birth place of M. de Marmontel, M. d'Aguesseau, &c. Its manufactures are small stuffs, porcelaine, paper, smith's work, tanning of hides, &c. Two leagues hence, in a pleasant valley, is the abbey of Sologniac, with a little town of the same name. The country towards Argenton is beautifully variegated, and there is a quick succession of delightful landscapes, of hills, woods, and vallies south to Brive.

St Junien, a market town, six leagues westward of the capital, on the river Vienne.

St Leonard le Noblet, Nobiliacum, a town of some note, on the Vienne, containing manufactures of cloth and paper, five leagues eastward of Limoges, and 88 south south-west of Paris.

Chalus, a little town and earldom, noted for a horse fair on St George's day, seven leagues south-west of the capital. In the siege of this place Richard I. King of England was killed; it contains 1,200 inhabitants.

Eimoutiers,

Eimoutiers, eight leagues eastward of the capital; *Aixe*, on the Vienne, *Bret*, south-east, *Pierre-Buffiere*, south south-east, and *Pompadour*, south of the capital,—are places of little note.

Towns, &c. in Lower Limosin.---*Tulle*, Tutela, the capital, and formerly a bishop's see, is a town containing several churches and convents, with 9,000 inhabitants, situate partly on a declivity and partly at the foot of a hill, in a territory covered with rocks and precipices, near the conflux of the Corezze and the Solane; 18 leagues south south-east of Limoges, and 28 south-west of Clermont. It is the birth-place of M. Baluze, Pierre Jarrige, M. Melon, &c. Its manufactures are woollen-stuffs, arms, liqueurs, chocolate, candles, &c.

Brive-la-Gaillarde, Briva Curretia, an old, ill built, manufacturing town, pleasantly situate in a fertile plain, opposite to a small island on the Correze, eighteen leagues south of Limoges, and five south-west of Tulle. It contains about 5,700 inhabitants, and is the birth-place of Cardinal Dubois. Its manufactures are silk-handkerchiefs, gauzes, muslins, serges, &c. The declivities of the hills bounding the plain are covered with vineyards, and partially wooded.

Uzerche, Uzerca, a little neatly built town consisting of one street containing three parish churches, a rich Benedictine abbey, and 1,400 inhabitants, on a rock bathed by the Vezere, tewlve leagues south south-east of Limoges, and four northward of Tulle.

Tregniac, or Treignac, a small town of 2,000 inhabitants, on the Vezere, about two leagues above Uzerche.

Turenne, Torinna Castrum, a little town, and the principal place of a viscounty, with a seat, near the south border of the province. The district of the same name contains several inconsiderable towns and villages.

Brivesac, a little town on the Dordogne, seven leagues south south-east of Tulle, in a fertile and agreeable tract.

Argentat,

Argentat an inconsiderable place on the Dordogne, six leagues south south-east of Tulle, and ten west of Aurillac.

Ussel, a small town containing 3,036 inhabitants, the capital of the dukedom of Ventadour, nine leagues north-east of Tulle, on Les Salles a stream that runs southward and falls into the Dordogne below Bort.

N. B.—There are many other little market towns in Lower Limosin.

28. LA MARCHE.

La Marche is bounded on the north by Berri, on the east by Auvergne, on the south by Limosin, on the west by Poitou; lying between 45° 45′ and 46° 35′ N. latitude, and between 0° 45′ and 2° 31′ E. longitude; being 10 leagues from north to south, and 20 from west to east.

Rivers.—The *Torion* originates in the north-east corner of the country, and flows westward to the Vienne, into which it falls above Limoges. The *Great Creuse* rises in Francallen, and runs north-west to Berri, in its progress augmented by the Little Creuse and other small streams. The *Gartempe*, from the interior part of the province, runs westward, and, enlarged by the Couze, the Vinçon, the Seve, &c. passes into Poitou. The *Vienne*, flowing from south to north, waters the western districts, and enters Poitou below Availles.

This province was successively under the dominion of the Romans, Visigoths, and Franks. Under the last of these powers, it was governed by counts, and was confiscated by Philip the Handsome. Francis I. annexed it to the crown A. D. 1531.

Divided into Upper and Lower, and the district of Franc-allen, some tracts are tolerably fertile, yielding grain and fruits, and others are covered with excellent pasturage. The soil is composed of sandy and friable loams, some on granite, and others on a calcareous bottom.

Towns, &c. in *Upper Marche*, or the eastern division:

Gueret, Voractum, the capital of the whole province, is a small town containing one parish church, one priory, two convents, one hospital, and 3,100 inhabitants; situate between two hills, near the source of the Gartempe, on the left hand of the Creuse, 14 leagues north-east of Limoges. It is the birth-place of Varillas an historian.

Frozelin, a little town north-west of Gueret, at the conflux of the Great and Little Creuse.

Ahun, Agedunum, a small populous town on an eminence, a few leagues south south-east of Gueret, containing 1200 inhabitants.

Aigurande, a town encompassed with a wall and ditch, seven leagues north of the capital, partly on an eminence and partly in a plain.

Chenerailles, an inconsiderable place in a plain abounding in grain and pasturage, five leagues south-east of Gueret, on the right hand of the Creuse.

Aubusson, Albucium, a little populous manufacturing town, containing 3,460 inhabitants, upwards of three leagues south of Chenerailles, and 18 east north-east of Limoges, on the Creuse, in a bottom surrounded by rocks and hills. It is the birth-place of Pierre d'Aubusson, and noted for its manufactures of green tapestry, carpets, &c.

Felletin, a small manufacturing town, a few leagues south of Aubusson, on the Creuse. In its environs are mineral springs.

Bourganeuf, a little town of 1,988 inhabitants, ten leagues from Limoges, on the Taurion a small stream that runs south-west to the Vienne. Here is the tower of Zizim built by Bajazet's brother.

Grandemont, a small town and celebrated abbey, eight leagues north-east of the capital, in a rocky and barren territory.

Benevent, a town noted only for a rich Augustine abbey founded A. D. 1028, and united to the bishopric of Quebec in 1693, two leagues from Gueret, containing 1,800 inhabitants.

Towns in Lower Marche.—*Bellac*, so called from an old fortified castle in the tenth century, is the capital of this division of the province, and a small town containing 3,900 inhabitants, about eight leagues north north-west of Limoges, and thirteen west of Gueret, on the river Vinçon. There are some vineyards in its neighbourhood.

Confoulens, *St Germain*, and *Availles*, are inconsiderable places near the western frontier.

Dorat, a town containing 1,500 inhabitants, three leagues north of Bellac, not far from the influx of a small stream into the Gartempe.

The following are market towns and villages of little note, viz. *Rançon*, on the Gartempte, north-east of Bellac; *Chateau-Ponsac* to the eastward, and *Souteraine* north-east of Rançon; *Maignac* a few miles from Dorat, on the Abrun; *Bourg le Lusac* near the confines of Poitou; *La Charte au Vicomte* and *St Benoist*, near the border of Berri.

Lespaux, *Chambon* on the Voile, *Charrod*, *Auzance*, *Sermur*, and *Croc*, are little towns in Combrailles and Franc-aleu, a district lying between Upper Marche and Lower Auvergne.

29. BERRI.

Berri, Bituricencis, so called from the Bituriges its ancient inhabitants, is bounded on the north by Orleanois, on the east by Nivernois, on the south by Bourbonnois and Marche, and on the west by Poitou and Touraine. It lies between 46° 15′ and 47° 45′ N. latitude, and between 1° 5′ and 3° 0′ E. longitude; being 29 leagues from north to south, and 24 from west to east.

Rivers.—The *Loire* flows northward along the eastern frontier. The *Evre*, the *Chere*, and the *Arnon* run north-west, and unite on the confines of Orleanois. The *Indre* originates near the south-east extremity of the country, and proceeds north-west to Touraine. The *Creuse* waters

ters the south-west, and the *Greater* and *Less Saudre* the northern districts. The general direction of the courses of those rivers is from south-east to north-west.

This province, sold to Philip I. A. D. 1,100, abounds in grain, fruit, and rich pasturage; and contains iron-mines, quarries of stone and mineral springs. The soil is gravelly, with deep loams and extensive heaths.

Towns, &c. in *Upper Berri*, or the eastern division, lying between the Cher and the Loire.

Bourges, Avaricum, Biturigum, the capital, and the seat of several councils, is a large and well built city, containing a fine Gothic cathedral, an archiepiscopal palace, an university established in 1466, 16 parish churches, 4 abbies, and 15,300 inhabitants; situate on a gentle declivity at the conflux of the Auron and the Yevre, in the meridian of Paris and centre of France, nearly 15 leagues N. N. W. of Nevers and 32 east south-east of Tours. It is the birth-place of Louis XI. and of Bourdaloue a celebrated preacher. The ancient part of the town is environed by an old wall. In its neighbourhood is the mineral spring of St Fermin. The manufactures of Bourges are linen, woollen-stuffs, and stockings.

Dun le Roy, Regiodunum, a town containing 1500 inhabitants, formerly more considerable, nine leagues south-south east of the capital, and 10 westward of Nevers, on the river Auron.

Chateau-neuf, a little town divided into upper and lower, partly on an eminence, and partly on a declivity bathed by the Cher, five leagues southward of Bourges. Its environs are fertile.

Mehun, Magdunum, Macedunum, an old, little town, in a plain, four leagues below, i. e. north-west of the capital, on the right bank of the Yevre. Here are some august remains of a castle where Charles VII. perished with hunger A. D. 1461. The great tower is entire, and three of the apartments, which appear to have been rooms of state, might almost be inhabited at present. The chamber where the king ex-

pired, is in one of the smaller towers. In the centre stands a chapel of exquisite workmanship. This castle is one of the finest monuments, now existing in Europe, of the taste and style of architecture in the 15th century. Mehun contains 1200 inhabitants.

Vierzon, a castle in the 10th century, called Brivodurum and Virzio, now a little town in a fertile and agreeable tract, containing an abbey, three convents, and 2,300 inhabitants, at the conflux of the Yevre and Cher, eight leagues north-west of Bourges, and 40 southward of Paris.

Boisbelle, or *Henrichement*, a regularly built market-town, containing upwards of 2000 inhabitants, founded in the 17th century by Maximilian de Bethune duke of Sully, in an indifferently fertile territory, six leagues north-north-east of Bourges, and four from the Loire. It has a manufacture of glass-ware.

Chapelle d'Angillon, Capella domini Gilonis, a little town with an old castle, north of the capital, on the less Saudre, seven leagues from Sancerre, containing 1200 inhabitants.

Aubigny, Albiniacum, a manufacturing town environed by a wall, containing 2,300 inhabitants, in a plain watered by the Nerre, nine leagues north of Bourges, 13 south-east of Orleans, 38 south of Paris. This place, formerly more considerable, was twice destroyed by fire, viz. once by the English in the reign of king John, and another time by accident.

Chatillon, a little town on the Loire, about 14 leagues north north-east of Bourges.

Concressault, Concordiæ Saltus, a town almost desolated in the civil war, on the Saudre, 10 leagues northward of the capital. Its environs are fertile.

Sancerre, Vicus Saxiacus, Sancerra, Santodorum, supposed to have been built by Charlemagne, and peopled with Saxons, a town containing 2,500 inhabitants, on an eminence near the Loire, nine leagues north-west of Nevers, and 11 north-east of Bourges. It was formerly a

strong

strong place, and bravely defended by the Protestants A. D. 1573; but, after a long siege, it was compelled by famine to surrender, and its fortifications were immediately demolished.

Towns, &c. in *Lower Berri.—Issoudun*, Auxellodunum, Exoldunum, the capital, a considerable trading town, containing several parish churches, a Benedictine abbey founded A. D. 977, five convents, two hospitals, with four suburbs and 10,000 inhabitants, situate partly on an eminence, and partly in a plain watered by the Theols, seven leagues west south-west of Bourges. It is defended by a castle. It has frequently suffered by fire, viz. in 1135, 1504, 1651, &c. There is good wine and excellent pastures in its vicinity.

Charot, Carophium, a little walled town on the Arnon, five leagues south-west of Bourges, three from Issoudun. Its environs are covered with excellent pasturage.

Reuilly, an inconsiderable town on the Arnon, below Charot, six leagues westward of Bourges, three north of Issoudun, four east of Vatan.

Lignieres, a little walled town on the Arnon, near lake Villiers which is eight leagues in circuit, 10 leagues from Bourges, and six south of Charot.

St Chartier, Vicus Lucanianus, Castellum St Charterii, a mean place containing about 500 inhabitants, six leagues south of Issoudun.

La Chatre, a small town containing two churches, three convents, and an hospital, with an old castle used as a prison, a few leagues south of Chartier, on the Indre, containing 3,400 inhabitants.

Chateau-Meillant, Castrum Mediolanum, an inconsiderable place, with an old castle, 10 leagues south south-east of Issoudun, on the Pinaise a stream that runs northward to the Arnon.

Boussac, a small walled town, defended by a castle on a rock almost inaccessible, bathed by the little Creuse, among steep rocks and precipices, near the south extremity of the province.

Argenton,

Argenton, a town divided into upper and lower, on the Creuse, about 20 leagues south-west of Bourges, and 21 east south-east of Poitiers. Its castle was demolished by Louis XIV : from its site there is a delightful prospect.

Le Blanc, Oblincum, a town containing three parishes and two convents, defended by a castle, in a barren territory, on the Creuse, twelve leagues east of Poitiers, nine west of Argenton, twenty-seven from Bourges. It contains 3,300 inhabitants, and its environs yield good wine.

Chateauroux, corruptly called Chateauraoul, Castrum Radulphi, a manufacturing and trading town, containing four parish churches, three convents, and 8,100 inhabitants, with a seat on an eminence near the Indre, 14 leagues from Bourges, and 26 from Poitiers. There are iron mines in its neighbourhood.

Deols, Vicus Dolensis, a town containing 900 inhabitants, but formerly more populous, with the ruins of a celebrated abbey, on the Indre above Chateauroux.

Levroux, Leprosum, an old walled town, in a low site watered by the rivulet Naon, five leagues westward of Issoudun. Here are some remains of antiquity ; and above the town is a ruinous castle, formerly a place of strength.

St Aignan, a town containing 2,000 inhabitants, on the Cher, in the north-west corner of the province, twelve leagues north-west of Issoudun.

Selles, or Celle, a little town that owes its origin to a Benedictine abbey founded A. D. 572, on the Cher, nine leagues from Amboise, four from Romorantin, and eighteen from Bourges.

Gracey, a small town environed by a wall flanked with towers, on a rivulet eight leagues westward of Bourges, in a territory diversified with meadows, woods, and pools of water.

30. TOURAINE.

Touraine, so called from the Turones its ancient inhabitants, is bounded on the north by Anjou, Maine, and Orleanois, on the east by Orleanois and Berri, on the south by Poitou, on the west by Samur and Anjou. It lies between 46° 40′ and 47° 40′ N. latitude, and between 0° and 1° 20′ E. longitude; being 24 leagues from north to south, and 22 from west to east. This province, on account of its fertility and agreeableness, is commonly styled the garden of France, though the soil is various, being in some districts marshy, and in others dry and sandy. There are some waste tracts like those in Anjou and Maine, and some of mixed loams on a calcareous bottom; but most part of the province is deficient in beauty. It contains mines of iron and copper,—forests,—mineral springs,—and natural curiosities. The river Loire traverses the whole country from east to west, dividing it into two parts called Upper and Lower Touraine. The Cher, the Indre, and the Vienne water the southern districts, and lose themselves in the Loire near the west boundary.

Touraine, A. D. 1202, was united to the crown of France, and in 1356 was raised to a dukedom and peerage. Before the late revolution, it was governed by its own laws, with a right of appeal to the parliament of Paris; and was divided into Upper and Lower Touraine.

Cities, &c.---Tours, Civitas Turonum, near the site of Cæsarodunum, is an ancient, well built, fortified city, an archiepiscopal see, and the capital of the province, containing a magnificent cathedral, a palace, three abbies, twelve religious houses, with five suburbs, and 22,000 inhabitants; pleasantly situate in a plain, on the left bank of the Loire, 25 leagues north north-east of Poitiers, 24 south-west of Orleans, 50 south-west of Paris. It is the birth-place of Ant. Mornac a lawyer, Ren. Rapin a poet, &c. It was formerly more populous, but is still a place of considerable trade.

trade. Here, or at Amboise, reformers were first called Huguenots. The public walk is 8,640 feet long; and the bridge over the Loire is 1,335 feet and composed of 15 elliptical arches. Near this city Charles Martel gained a victory over the Saracens A. D. 732. At *Les Montels*, there is a royal palace called Les Plessis les Tours built by Louis XI. and environed by an extensive park and fine gardens.

Lugnes, or Maillé, Malliacum, a little old town, containing two parish churches, two convents, and 2,000 inhabitants, on an eminence opposite to Tours. This is supposed to be the site of Cæsarodunum, and some remains of ancient monuments are there extant.

Langets, or Langey, Langiacum, Langesium, Alengavia, Lingia, a town containing two parish churches, a castle in the Gothic taste, and 2,000 inhabitants; six leagues south-west of Tours, below Lugnes, on the Loire, and noted for its excellent melons. Its manufactures are woollen-stuffs, metal-buttons, &c. It was the seat of a council A. D. 1278. A league hence is the castle of St Mars.

Chateau-Regnault, a town containing a parish church, a convent, and 1,900 inhabitants, six leagues north-east of Tours, in an agreeable territory watered by the Bransle.

Amboise, Castrum Ambiacum, Ambacia, an old meanly built town, containing two parish churches, four convents, an hospital, and 4,000 inhabitants, with the ruins of a fine old castle on a rock; pleasantly situate at the influx of a rivulet into the Loire, five leagues above the capital. This is the birth-place of Charles VIII.; and here the civil war broke out A. D. 1561. In its vicinity there is an extensive forest.

Blere, Bliriacum, a small town formerly more considerable, five leagues south-east of Tours, on the left bank of the Cher, containing upwards of 1,500 inhabitants.

Montrichard, a town with several suburbs, containing two parishes, and 3,000 inhabitants, on an eminence bathed by the Cher, three leagues

above Blere, eight eastward of the capital, not far from the eastern border of the province.

Loches, Luccae, a place of some note, containing a parish church, several convents, and 4,342 inhabitants, south-east of the capital, on the left bank of the Indre opposite to Beaulieu. In the church is the sepulchral monument of Agnes Sorel. Its castle, on a rock, was formerly an important fortress; and in it are four ranges of subterranean passages over one another, in some of which prisoners of the highest rank were usually confined. In one of the apartments is the iron cage in which Louis XI. confined the Cardinal de la Baluc upwards of nine years. In that neighbourhood there is an extensive forest.

Chatillon, on the Indre, Castilio ad Ingerim, the principal town in the territory of Brenne, containing one collegiate church and two convents, 13 leagues south south-east of Tours, near the confines of Berri. Its environs are fertile.

Montbazon, a little town with an old castle, pleasantly situate at the foot of a hill, three leagues south of the capital. It contains 1,000 inhabitants.

Chinon, Castrum Chinonis; an old town with a strong castle, containing four parish churches, several convents, and 6,000 inhabitants, on the Vienne, near the western extremity of the province, nine leagues south-west of Tours. It is the birth-place of Quillet. In the castle Henry II. of England died A. D. 1189. Rabelais was born at Deviniere a league from Chinon.

Isle-Bouchard, the birth-place of Andrew Duchene, a little town with several churches, priories, and convents, environed by the Vienne, above Chinon, eight leagues south south-west of Tours. Its castle was built in the tenth century.

La Haye, Haga Turonica, the birth-place of Descartes, a town containing two parish churches, and about 1000 inhabitants, on the Creuse

at some distance from its influx into the Vienne, ten leagues south of Tours, and four north north-east of Chatellerault.

La Guierche, a little town, with a castle built by Agnes Sorel, on the Creuse, a few leagues above La Haye.

La Roche Posay, above La Guierche, at the conflux of the Gartempte and Creuse, near the border of Poitou, and noted for its mineral springs.

Preuilly, a small town containing several parish churches, with a Benedictine abbey founded A. D. 1001, a few leagues south of La Guierche, on the Claise. There are iron mines in its vicinity. The population may amount to 1,500 inhabitants.

Martizay and *Meziere* are inconsiderable places bathed by the Claise, above Preuilly.

Ligueil, a town containing 1,800 inhabitants in a fertile tract watered by a rivulet, four leagues south-west of Loches, equidistant nearly from the Creuse and the Indre. In its neighbourhood there is a petrifying lake, and a mass of 13,068,000 cubic toises of marine shells.

Champigny, a little town, a league north-west of Richelieu, and three leagues south of Chinon, near the confines of Saumurois, on a small stream that runs northward to the Vienne. There are some remains of its castle.

Savonieres, an inconsiderable place on the Cher, south-west of Tours. In its vicinity are some caverns, where the water distilling from the rock congeals, and forms a variety of transparent figures.

Mont Louis, Mons Laudiacus, between the Loire and the Cher, was the fort where peace was concluded between Louis VII. and Henry II. of England A. D. 1174.

The following are places of little note, viz. *Villebourg*, a market town in a fertile tract; *St Martin le Beau*, noted for two battles fought in its neighbourhood; *Presigny le Grand*, on the Claise; *Paulmy*, on an eminence bathed by the Brignon; *Rocheposay*, on the Creuse, near some mineral springs.

31. ANJOU.

ANJOU, Andegavensis, so called from the Andes or Andegavi its ancient inhabitants, is bounded on the north by Le Maine, on the east by Touraine, on the south by Poitou, on the west by Bretagne ; lying between 47° and 48° north latitude, and between 1° 15′ west and 0° 25′ east longitude ; being 25 leagues in length and 20 in breadth.

This province anciently consisted of two counties, which, towards the conclusion of the 9th century, were united, and in 1202 were annexed to the crown by Philip Augustus. Divided into upper and lower, it is agreeably diversified with hills, extensive waste tracts of a tolerable soil, and plains abounding in grain, fruits, and pastures. It contains mines of iron, copper, and coal, with quarries of slate, stone, and marble. Forty-nine small and large streams flow through it in different directions, and of these six are navigable. It is traversed by the Loire from east to west. The Loir and Sarte flow south-west, unite above Angers, and below that city fall into the Loire. The Mayenne, in its progress southward, is augmented on the right by the Oudon, and joins the united streams of the Loir and Sarte above Angers.

Cities, &c.—Angers, Juliomagus, and afterwards Andegavum, the capital, a bishop's see, and the seat of several councils, is a large, tolerably built city, surrounded with a wall built by John King of England, demolished by Louis VIII. and rebuilt by St Louis, on the declivity of a hill in a fertile and agreeable territory, below the influx of the Loir and Sarte into the Mayenne, 22 leagues west of Tours, 18 north-east of Nantes, 65 south-west of Paris. Divided into two parts by the Mayenne, it contains a cathedral of singular architecture, an university founded by St Louis, an academy of belle lettres established A. D. 1685, 16 parish churches, five abbies, many convents, and 33,000 inhabitants.

The castle is ruinous, but the walls, towers, and fosses, which still subsist, evince its former magnificence. In this city are several manufactures of camblets, serges, and mixed stuffs, with a considerable trade. There are some remains of Roman antiquities.

Bauge, or Beauge, Balgiacum, a town built A. D. 1040, containing 3,300 inhabitants, on the Coesnon, eight leagues north-east of the capital, and four from Fleche. In its neighbourhood the English were defeated by the French A. D. 1420.

Brissac, a small town in an agreeable tract watered by the Aubence, four leagues from Angers. Near its walls a memorable battle was fought A. D. 1067.

Chateau-Gonthier, a considerable manufacturing town, containing three parish churches, several convents, and about 4,600 inhabitants, on the Mayenne, 10 leagues northward of the capital. In its vicinity there are some mineral springs.

Duretal, Durostallum, a small town in a fruitful territory, on the Loir, below Fleche, six leagues north-east of Angers. A large and strong castle was built here A. D. 1040.

La Fleche, Castrum Fissæ, Fisca, Flexia, a well built town, containing 5,000 inhabitants, in a pleasant valley watered by the Loir, a few leagues east north-east of Duretal, near the confines of La Maine, 10 leagues north-east of the capital. Here was a celebrated college of Jesuits founded A. D. 1603. Its castle, on an island, is demolished, and a convent built on its ruins. In 1540, another castle was built on the opposite side of the town. In the church were deposited the hearts of Henry IV. and Mary de Medicis.

Rille, a little town with a priory of Bernardines, near the eastern boundary of the province.

Bourgueil, a town with a Benedictine abbey, on the Authion, twelve leagues south-east of the capital.

Beaufort-

Beaufort-en-Vallee, a trading town containing two parish churches and a convent, five leagues eastward of Angers, in a long valley watered by the Authion.

Pont-de-Ce, Pons Saii, a little town defended by a castle, on the Loir, above the influx of the Mayenne, a league below Angers. Near it there was a bloody engagement in the civil wars of La Vendée.

Le Lion, a place of little note on the Oudon, and near its influx into the Mayenne, four leagues north north-west of the capital.

Candee-en-Lamee, a little town nine leagues north-west of the capital, at the confluence of the Mandie and Erdre, near the border of Bretagne, and south of Challain, on the Argos. There are iron mines in its neighbourhood.

Doue, Theoduadum, the birth-place of Savary, and a manufacturing town, containing a convent, an hospital, a fine fountain, the remains of a ducal palace, and 1,800 inhabitants, four leagues from the Loire.

Oraon, Oredonium, a town containing 2000 inhabitants, with a Benedictine priory, 12 leagues north north-west of the capital, on the Oudon, in the north-west corner of the province.

St Aubin, a small town and Benedictine abbey, near the confines of Bretagne, on a lake, whence flows the Verse a small stream that falls into the Oudon.

Chemille, six leagues southward of Angers; *Puy-notre-Dame*, four leagues south-west of Saumur; *Beaupreau*, on the Eure, seven leagues south-west of Angers; *Chollet*, on the border of Poitou, south of Beaupreau, &c. are small towns that merit no description.

32. SAUMUROIS.

SAUMUROIS, a small government containing a portion of Anjou, and of Upper Poitou, lies between 46° 40′ and 47° 18′ north latitude, and

between 0° 5′ west and 0° 30′ east longitude; being 12 leagues in length and three in breadth. It is watered by several streams, which run northward, and lose themselves in the Vienne and the Loire, the latter of which rivers forms the north boundary of this district. There are several coal mines, some veins of which are five feet thick and three broad.

Towns, &c.—Saumur, Salvus Murus, Salmurium, so called from the long rock resembling a wall on which it is situate, is an indifferently built town, with handsome suburbs, containing three parish churches, nine convents, and 9,580 inhabitants, agreeably situate on the bank of the Loire, 10 leagues south-east of Angers and 16 south-west of Tours. Its castle, now only used as a prison of state, is noted for being the seat of two councils, viz. in 1276 and 1315. It was the birth-place of Louis Cappel, Daniel Superville, Madame Dacier, &c. Its celebrated university was dissolved by Louis XIV. A. D. 1684. An elegant bridge over the Loire was lately constructed. A mile hence stands the fine Benedictine abbey of St Florence.

Montreuil-Berlay, a little town, containing a collegiate church, an hospital, and convent, bathed by the Touet, four leagues south south-west of Saumur.

Richelieu, a regular and handsome town, 350 toises in length and 250 in breadth, on the rivulets Amable and Vide, built by Cardinal Richelieu, A. D. 1637, with an elegant seat, eleven leagues north of Poitiers.

Moncontour, Mons Consularis, an inconsiderable town on the Dive, six leagues south-west of Richelieu, and nine southward of Saumur. In its vicinity the Huguenots were defeated A. D. 1567.

Mirebeau, the capital of a fruitful district, a small town containing two priories, two convents, and 2,000 inhabitants, on an eminence bathed by a rivulet that forms a marsh, 12 leagues south south-east of Saumur.

Frontevault,

Frontevault, Frons Evraldi, a market town, in a forest, near the Loire. A celebrated abbey was founded there A. D. 1100. The church contains the tombs of several kings and queens of England.

33. The French territories in the *Netherlands*, before the revolution, were composed of the following districts, viz. A part of the Earldom of Flanders, Cambresis, Hainau, Dunkirk, Artois, and Namurois.

1. *French Flanders*, bounded on the north by Austrian Flanders, on the east by French Hainau, on the south by Artois, on the west by the German Ocean; lying between 50° 20′ and 51° N. latitude, and between 2° 10′ and 3° 30′ E. longitude; being 42 leagues in length and eight in breadth. It abounds in grain and excellent pasturage, and is conveniently situate for trade.

Towns, &c.—Gravelines, Gravenengæ, Grewling, is a small, well built, strong town, fortified by Vauban, containing about 2,700 inhabitants, on the Aa, a mile from the sea coast, between Calais and Dunkirk. This town, exclusive of its fortifications, is defended on the one side by a citadel, and on the other by a fort. In 1383 it was destroyed by the English; and in 1528 again fortified by Charles V. In its neighbourhood the French were defeated by the Spaniards A. D. 1558. It was taken by the French in 1644; by the Austrians in 1652; by the French in 1658; and laid in ashes A. D. 1694.

Berg St Vinox, Vinociberga, an irregular, ill built, fortified town, containing 4,000 inhabitants, 1,800 toises in circuit, on an eminence at the foot of a hill, two leagues south south-east of Dunkirk, on the Colme. It was taken by the Duke of Parma from the Dutch A. D. 1537; by the Duke of Orleans in 1646; by the Spaniards in 1651; by Marshal Turenne in 1658; and was ceded to France by the treaty of Pyrenees. Its Benedictine abbey was founded A. D. 900. The adjacent country may be inundated.

Cassel,

Cassel, Castellum Morinorum, formerly a considerable and strong town, now greatly decayed, on a hill in a plain, six leagues south south-east of Dunkirk. It was ceded to France by the treaty of Nimeguen, A. D. 1678. There are no remains of the castle that stood on the summit of the hill, whence is an extensive prospect. In that neighbourhood three battles were fought, viz. in 1071, 1328, and 1677. The population exceeds 4,000 inhabitants.

Lille, or *L'Isle*, Insula, Isla, Castrum Illense, the capital of French Flanders, is a large, well built, manufacturing, trading, populous city, and an important fortification, with a strong citadel and fort constructed by Vauban, on an eminence, in a fertile territory watered by the navigable Deule, five leagues west of Tournay, seven north of Douay, and 15 south-east of Dunkirk. It contains 70 streets, 30 market places, 6 hospitals, many religious houses, and 49,500 inhabitants. In 1667 it was taken by Louis XIV, recovered by the confederates in 1708, and restored to France, A. D. 1713, by the peace of Utrecht. It is the birth-place of Antoinette Bourignon, Dom. Bodius a Latin poet, Matthias de Lobel a botanist, &c. Its manufactures are cloth, lace, callimancoes, paper, glass-ware, &c. The ground in the vicinity of the city is hollow, great quantities of free-stone having been extracted from it. In the cavities the inhabitants can conceal their effects in time of war.

Comines, a little town, three leagues north of Lille, divided by the Lys into two parts, one of which, by the treaty of Utrecht, belongs to France, and the other to the House of Austria. Its fortifications have been demolished.

Armentieres, a manufacturing and trading town, on the Leys, three leagues north-west of Lille, and 12 south-east of Dunkirk. It was taken and retaken several times during the wars between France and Spain. Its fortifications were demolished by Louis XIV. A. D. 1667.

Bouvines, a village, or market town, three leagues south-east of Lille, on the river Marque, noted only for a battle fought in its neighbourhood, A. D. 1214.

St Amand, Amandopolis, a little town on the Scarpe, near the border of French Hainau, three leagues north of Valenciennes, six north-east of Douay, and seven south-east of Lille. Here is a rich Benedictine abbey; and in this neighbourhood is a mineral spring.

Orchies, Orchesium, formerly a considerable, now a mean manufacturing town, four leagues south-east of Lille, containing upwards of 2,000 inhabitants.

Marchiennes, a small town, with a Benedictine abbey, on the Scarpe, in a marshy tract between Douay and St Amand, six leagues south south-east of Lille, containing 2,300 inhabitants.

Douay, Duacum, an ancient, considerable, well fortified, populous town of an oval form, containing an university founded by Philip II. King of Spain, A. D. 1562, a seminary for English Roman Catholics, and about 18,000 inhabitants; in a marshy territory, on the navigable Scarpe that has a communication with the Deule by a canal, six leagues north north-west of Cambray, five east north-east of Arras, and 14 south-west of Mons. It is the birth-place of John de Bologne. In the year 1667 it was taken by the French, by Marlborough in 1710, and by the French in 1712. Its manufactures are cambrics, gauzes, thread for laces, lamp oil, &c. The adjacent country may be inundated; and the fort is surrounded by water.

The district of *Dunkirk*, contained the town only, and some neighbouring villages.

Dunkirk is a tolerably built maritime town, containing upwards of 20,000 inhabitants, at the mouth of the Colme, five leagues north-east of Gravelines, and ten south-west of Ostend. In the 10th century it was an inconsiderable place surrounded by a wall. Having a harbour conveniently situate for trade, it soon after increased in size and opu-

lence. In the 13th century, it became the property of the Bishop of Cambray, by whom it was enlarged, and its harbour improved. It passed afterwards through various families, the sovereign jurisdiction still belonging to the House of Austria. In 1558, it was taken and destroyed by the French; and in the following year it was ceded to Spain, by the peace of Chateau-Cambresis. In 1658, it was seized by the English and French, and put into the hands of the English, but sold to the French by Charles II. A. D. 1662, and fortified by Louis XIV. In 1706, it contained 1,639 houses, and 14,274 inhabitants. Being a place where French privateers were stationed in the time of war, its fortifications were demolished in consequence of the treaty of Utrecht, A. D. 1713. From this period its trade gradually declined. The French attempted to rebuild the works; but these were again demolished by the peace in 1763. The French, in the year 1783, were again permitted to repair them. In 1784, it was declared a free port. In 1793 the English attempted to besiege it, but were obliged to retire. The approach to the harbour being dangerous, in November 1774, buoys of various colours were placed on both sides of the entrance. On full and change days it has high water at 12 o'clock. The Downs, a narrow ridge of sand hills, run parallel to the shore, which is broken and interrupted by the mouths of the river, and openings for the sluices or canals. The Scharken bank, more than a mile in breadth, between the town and the sea, has been cut through to form a good entrance into the harbour.

Mardyk, a village on the sea coast, four miles westward of Dunkirk, and noted only for a fort in its neighbourhood, which was often besieged and taken, but at last, A. D. 1665, dismantled. Louis XIV. ordered a famous canal to be constructed there, after the demolition of the harbour of Dunkirk. This canal extended 3,338 toises, and was between 25 and 30 in breadth. In the treaty of peace concluded at the Hague, A. D. 1717, the English insisted that the large entrance into the

new

new sluice of this canal should be filled up, and that no harbour, sluice, or bason should be formed at Mardyk, or Dunkirk, or within two leagues round.

3. *Cambresis* is a fertile and populous territory of a triangular form, 10 leagues in length, and 2—5 in breadth, south-west of French Hainau, and traversed from south to north by the Schelde. It yields grain, flax, and excellent pastures.

Cambray, Camaracum Nerviorum, Cameracum, an ancient, considerable, irregularly built, well fortified town, with mean suburbs, containing an elegant cathedral, ten parish churches, several abbies and hospitals, and 13,800 inhabitants, six leagues south south-east of Douay, on the Schelde, by which it is divided into two parts. Besides other strong works it is defended by a citadel and fort. It was an archbishop's and is now a bishop's see, famous for fine linens manufactured here called cambrics. As the adjacent country may be inundated, it is reckoned one of the strongest towns in the Netherlands, and has been in the possession of the French since the year 1677. It is remarkable for several treaties concluded here, particularly the treaty against the republic of Venice A. D. 1529, and the peace between the Emperor Charles V. and Francis I. of France A. D. 1529. In April 1794 the French were twice defeated by the English in its vicinity.

Chateau-Cambresis, Castrum Cameracense, a small open town with an handsome archiepiscopal palace, on the Selle, five leagues south-east of Cambray. Peace was concluded here between France and Spain A. D. 1559. It contains 3,500 inhabitants.

Crevecoeur, an inconsiderable place, a few leagues south of Cambray, near the site of the ancient Vinciacus, and noted for a battle gained in its neighbourhood by Charles Martel A. D. 717. *N. B.* At *Vaucelles*, a Benedictine abbey, two leagues south of Cambray, a treaty was concluded between Charles V. and Henry II. A. D. 1556.

4. *French Hainau*, Hannonia, lies from north-west to south-east, between Austrian Hainau and Cambresis, 22 leagues in length and six in mean breadth, watered by the Schelde, the Sambre, the Haine, and the Deule. The general direction of these rivers is from south-west to north-east. This country abounds in woods, lakes, mines, and quarries, and it yields grain and rich pastures.

Hainau was some time an independent country. After various revolutions it was annexed to the House of Austria by the marriage of Mary de Bourgogne with Maximilian, by whose descendants it was occupied until the reigns of Philip IV. and Charles II. Kings of Spain, who resigned a portion of it to France by the treaties of the Pyrenees and of Nimeguen. The division belonging to Spain was ceded to the Emperor by the treaties of Bade and Radstat, and confirmed by the treaty of Vienne.

Towns, &c.—Valenciennes, Villa Valentiana, is an ancient and irregularly built town, with narrow winding streets, containing 17,100 inhabitants, in a valley traversed by the Schelde, seven leagues north-east of Cambray, eight south-west of Mons, eight east of Douay. The fortifications were constructed in part by Vauban. It is defended by an irregular but strong citadel, and is noted for being the birth-place of John Froissard an historian, and for its manufactures of woollen cloths, camlets, fustian, and cambric. It was ceded to France by the treaty of Nimeguen. In 1793 it was besieged by the allies under the Duke of York, to whom it surrendered after a siege of six weeks; but it was retaken by the French the year following. Several branches of the Schelde pass through the town, and the adjacent country may be inundated.

Conde, a small town, but an important fortification, ceded to the French A. D. 1678, seven miles north-east of Valenciennes, at the conflux of the Haine and the Schelde. In July 1793 it surrendered to the allies, but was retaken by the French the following year.

Denain,

Denain, Denonium, a village on the Schelde, westward of Valenciennes, noted for its abbey, founded by a daughter of King Pepin, and for a defeat of the allies by the French A. D. 1712.

Bouchain, Buccinium, a small but strong town, on the declivity of an eminence bathed by the Schelde, three leagues south-west of Valenciennes. It was taken by the French A. D. 1676; by the allied army in 1711; and recovered by the French after the battle of Denain. It was besieged by the Austrians A. D. 1793, but soon relieved.

Quesnoy, Quercetum, a small, irregular, fortified town, containing one parish, an abbey, several convents, and 3,600 inhabitants, in a plain on the Rouelle, about four leagues south south-east of Valenciennes, and six east north-east of Cambray. It was taken by the allies in 1712, and retaken by the French in the same year.

Maubeuge, Malbodium, a fortified town, about five leagues south of Mons, and seven south-east of Valenciennes, on the river Sambre. Louis XIV. having obtained this place by the treaty of Nimeguen, caused it to be strongly fortified by Vauban. It contains upwards of 4000 inhabitants.

Landrecy, Landericiæ, a small town, whose fortifications were constructed by De Ville and repaired by Vauban, in a plain watered by the Sambre, six leagues south-west of Maubeuge, seven south-east of Cambray, 11 south south-west of Mons. Francis I. having made himself master of it, Charles V. retook it A. D. 1543. Louis XIV. took possession of it in 1665, and it was ceded to France by the treaty of the Pyrenees. In 1712 it was besieged in vain by Prince Eugene.

Philippeville, a little town pleasantly situate on an eminence, and fortified by Mary, Queen of Hungary and sister to Charles V. in the north-east corner of French Hainau, three leagues north of Marienbourg, and twelve south-east of Mons.

Marienbourg, a small town built by Mary Queen of Hungary A. D. 1547, near the eastern frontier of Hainau, four leagues north of Ro-

croix.

croix. It was taken by Henry II. A. D. 1554, ceded to the French by the peace of the Pyrenees, and in 1674 dismantled by Louis XIV. Afterwards, in 1681, it was environed by a wall.

Chimay, a little town near the Blanche, in a fertile tract, four leagues south-west of Marienbourg. In 1684, it was ceded to the French. Near this place the forest of Ardennes begins, and is still extensive.

5. *French Namurois*, is a small district eastward of French Hainau, and watered by the river Meuse.

Charlemont, a small town founded by Charles V. A. D. 1555, on a steep rock bathed by the Meuse, eight leagues south of Namur, and four eastward of Philipeville. It was ceded to the French by the peace of Nimeguen, and fortified by Vauban.

Givet, St Hilaire, a new, regular, neatly built town, on the right bank of the Meuse, near Charlemont, and opposite to Givet-notre-dame, which is a little fortified place, equidistant nearly from Namur and Rocroix.

6. *Artois*, Atrebatensis, so called from the Atrebates its ancient inhabitants, is bounded on the north by French Flanders, on the east by Hainau, on the south and west by Picardy; lying between 50° 0′ and 50° 50′ north latitude, and 1° 50′ and 3° 10′ east longitude; being 23 leagues from north-west to south-east, and 10–12 in breadth.

This level country, watered by the Scarpe, the Aa, and the Canche, is one of the most fertile and agreeable territories in the kingdom, and contains about 300,000 inhabitants. Its annexation to France was effected by Louis XIII. and XIV. and confirmed by the treaties of Nimeguen, Ryswick, and Utrecht.

Towns, &c.—Arras, Origiacum, Atrebatæ, the capital, and a bishop's see, is a considerable, well built, and regularly fortified town, with a strong citadel repaired by Vauban, on the river Scarpe, containing a fine cathedral, a rich Benedictine abbey founded in the seventh century, nine parishes, ten convents, 3,768 houses, and 19,364 inhabitants, 8 leagues north-west

north-west of Cambray, 5 south-west of Douay, 14 north north-east of Amiens. It is divided into two parts, called the city and the town, separated from each other by a ditch, a rampart, and a narrow valley, watered by the rivulet Crinchon. In 1477, it was taken by Louis XI.; in 1493, by Maximilian; in 1640, by the French; and in 1654, it held out a siege against the Spaniards. Here tapestry was invented. It is the birth-place of Baudoin, Damien, and Robespierre. Its manufactures are bone-lace, lawn, stockings, cloth, procelain, oil. In 1773, an academy of belles lettres was established in this place.

Bapaume, a small fortified town, containing about 3,000 inhabitants, six leagues south south-east of Arras, in a barren tract without river or spring. The French took possession of this place A. D. 1641.

Hesdin, a little and strong town on the Canche, ten leagues southward of St Omer. *Old Hesdin*, formerly a place of strength, stands higher on the same river; but having been destroyed, New Hesdin was built by order of the Emperor Charles V.; and, in 1639, was taken by Louis XIII. who kept possession of it after the peace of the Pyrenees. It is a regular hexagon in a marshy situation.

Azincourt, a village three leagues north of Hesdin, is famous for a victory gained by the English A. D. 1415.

Aubigny, Albiniacum, an inconsiderable town, three leagues north-west of Arras, near the source of the Scarpe.

Lens, Elenæ, Lentium, a mean place on the Souchet, formerly fortified and several times besieged, four leagues north of Arras, and four north-west of Douay. In its neighbourhood the Spaniards were defeated by the French in 1648; it contains 1,800 inhabitants.

Bethune, a small, ill built, indifferently fortified town, containing two parishes, two priories, several convents, and 5,000 inhabitants, with a strong citadel repaired by Vauban, on a rock bathed by the Bietre, six leagues north north-west of Arras. In 1710, it was taken by the allies, and restored at the peace of Utrecht.

Lillers,

Lillers, a little open town, formerly fortified, containing 3,500 inhabitants, seven leagues north north-west of Arras, on the Navez.

Aire, Æria, a small but strong town, divided into two unequal parts by the Lys, nine leagues from Dunkirk, ten north north-west of Arras, eleven eastward of Boulogne. It was taken by the French in 1641 and 1676, and by the allies in 1710, but restored at the peace of Utrecht. Its fortifications were repaired by Vauban.

St Venant, an inconsiderable town, formerly fortified, on the Lys and the border of French Flanders, two leagues eastward of Aire, and ten south south-east of Dunkirk. It was taken by the allies A. D. 1710, and restored to the French at the peace of Utrecht. The adjacent country may be inundated.

Terouenne, Taruenna Morinum, formerly a considerable town on the Lys, six miles westward of Aire, demolished by Charles V. A. D. 1553. The district belonging to this place was ceded by Spain to France in 1559 and 1659. Near this place, in 1503, was fought the battle of the Spurs.

St Omer, Fanum S. Audemari, a large and populous town, containing a fine cathedral, a noted Benedictine abbey, with other religious houses, six parishes, and 20,100 inhabitants, partly on an eminence and partly in a marshy site, on the Aa, four leagues north-west of Aire, and eight from Dunkirk and Calais. It is one of the best fortresses in Artois, and has a communication with the sea by means of a navigable canal cut from the Aa to Gravelines. It is noted for its manufactures of cloth.

Renty, a little town bathed by the Aa, four and an half leagues south-west of St Omer, and five south-west of Aire. In its neighbourhood a battle was fought between the French and Spaniards A. D. 1554.

NETHERLANDS.

FLANDERS, Austrian Brabant, Hainault, Upper Gelderland, Limburg, Luxemburg, the bishopric of Liege, Antwerp, the circle of Lower Rhine, the dutchy of Juliers, and the territory extending along the left bank of the Rhine to the influx of the Meuse, were annexed to the French dominions by the treaty of Formio A. D. 1797. As these fertile and populous provinces will probably remain attached to France, it may be proper to lay before the reader a concise view of their contents, though he will find a particular description of each province in that of the empire, or state, to which it formerly belonged.

The Netherlands, or ten Catholic provinces, were—1. Flanders. 2. Brabant. 3. Artois. 4. Hainault. 5. Namur. 6. Luxemburg. 7. Limburg. 8. Upper Gelderland. 9. The Margraviate of Antwerp. 10. The county of Malines, or Mechlin. By far the greater part of these provinces pertained to the House of Austria; but the Dutch occupied some districts of Flanders, Brabant, Upper Gelderland, and Limburg; the French possessed Artois, with certain portions of Hainault, Namur, Luxemburg, and Flanders. To the King of Prussia, the Emperor, and the Dutch, Upper Gelderland belonged.

These provinces (Artois excepted), including the other acquired territories already mentioned, lie between 49° 10′ and 51° 55′ N. latitude, and between 2° 30′ and 8° 25′ E. longitude from Greenwich; being 100 leagues from north-west to south east along the former boundary of France, and about 30 in mean breadth; containing 2,955 square leagues, divided into thirteen departments—(see the region called the Re-united Country).

Climate and Soil.—The air, rather moist than warm, is bad in the maritime tracts, but more salubrious in the interior provinces; and the seasons are more regular and steady than in England. The soil, in general level, consists of a rich sandy loam, interspersed with fields of clay and heaths. In Namur and Luxemburg are little hills and vallies. In Brabant, Hainault, and Luxemburg, are wooded tracts, the remains of the ancient forest of Ardennes. But most of the provinces are well cultivated, and have been long esteemed the garden of Europe.

Rivers.—The sources and terminations of the most noted rivers are as follows:

Names.	Sources.	Direction of their courses.	Terminations.
Aa,	Eastward of Tournhout,	N.	in Holland's Diep, below Breda.
Demer,	Department of Meuse Inferieure,	W.	the Dyle, at Malines.
Dyle,	Marbais, north-west of Namur,	N.	the Schelde, bet. Malines & Antwerp.
Haine,	Department of Jemmapes, east of Mons,	N. W.	the Schelde, near Conde.
Jaar,	Department of Ourthe, near Tongres,	N. W.	the Meuse, at Maestricht.
Merck,	Merckplas,	N.	in Holland's Diep, below Breda.
Meuse,	Mountains of Vosges,	N.	German Ocean.
Great Nethe,	Lower Meuse department,	W.	the Schelde.
Little Nethe,	Near Postel,	S. W.	the Schelde.
Ourthe,	South extremity of the department,	W. & N.	the Meuse, at Liege.
Roer,	Near Montjoye,	N. N. W.	the Meuse, at Ruremonde.
Sambre,	At Nouvion, department of Aisne,	N. E.	the Meuse, at Namur.
Schelde,	The department of Somme,	N. N. E.	German Ocean.
Sarre,	The department of Vosges,	N.	the Moselle, above Treves.
Vesdre,	The department of Roer,	W.	the Ourthe, above Liege.
Worm,	Above Aix la Chapelle,	N.	the Roer, near Hindsberg.

Canals.—There is a canal for vessels of 300 tons from Ostend eastward to Bruges, and thence to Gand or Ghent. Another is conducted from Ostend southward to Nieuport, Furnes, and Dunkirk. A canal from Gand reaches north to Sas-de-Gand. The canal of Louvain commences at the junction of the Senne and the Dyle in the Rupel, and proceeds to Malines. The canal of Bruges extends northward to the Rupel opposite to Boom. But some of these, and other canals in the western districts, have been much neglected.

Population.

Population.—The conquered provinces in the Netherlands, and on the left hand of the Rhine, contain 4,309,647 inhabitants.

Products.—The products of the soil are grain, flax, hemp, fruits, turnips, artificial grasses, and excellent pastures. There are mines of copper, iron, lead, coal, marble, and stone quarries, in Juliers, Cologne, Treves, Mentz, Spires, Luxemburg, Namur, Hainault, Liege, and Limburg. Antimony, cobalt, sulphur, and mercury are found in Metz and Spiers; and calamine in Hundsruck. There are frequented mineral springs at Aix-la-Chapelle and at Spa.

Manufactures and Commerce.—The manufactures of the Netherlands long excelled those in other parts of Europe; but, for some time past, they have been in the decline, owing to the competition and successful exertions of other powers. Cambray, however, is still famous for cambrics; Tournay, or Dornick, for fine linen; tapestry, linen, and lace, are manufactured at Malines or Mechlin, Brussels, Gand, Antwerp, and Louvain. A considerable inland trade is carried on by navigable rivers, and by canals, in every direction. The chief sea-ports are, Sluys a capacious harbour, and Ostend. Notwithstanding these advantages, the commerce of the Flemings is very limited.

Religion.—The established religion in the Netherlands is the Roman Catholic; but Protestants and other sects are tolerated. According to the new ecclesiastical division of the conquered provinces, the metropolitan see is the archbishopric of Mechlin; and the bishoprics are those of Namur, Tournay, Aix-la-Chapelle, Treves, Gand or Ghent, Liege, and Mentz; all of whom are appointed by the French Emperour. The inhabitants were noted for their bigotry till the late revolution.

Learning.—The Louvain, Douay, Tournay, and St Omers, were universities of some celebrity, and were frequented by English Catholics; but they have produced few writers of eminence. Theological and controversial tracts, and disquisitions on the civil and canon law, are the chief productions of learned men in the Netherlands. But the fine arts

have been successfully cultivated in the Flemish school. The painters and sculptors of that school have been long famous; and the works of Reuben, Vandyke, &c. cannot be sufficiently admired.

Government.—The Austrian Netherlands were formerly considered as a circle of the empire, and had their governor-general and their parliament; but since their reunion to France, they are divided into departments, subjected to the government established in that kingdom. This change has not been productive of beneficial effects to the country. Under the influence of the nobles and clergy, the people were less oppressed, and more prosperous, than they have hitherto been under the despotism of French liberty.

Of the revenue and military strength no calculation can be made; the former depending on the arbitrary will and extortions of the conqueror, and the latter consisting of troops stationed in garrisons, or incorporated with the French army.

FRANCE

DIVIDED INTO DEPARTMENTS.

Since a division of France into departments was ordained by the National Assembly, A. D. 1790, afterwards in 1795, and finally established in the 8th year of the Republic; and since this division has been adopted in all subsequent historical details of the kingdom, or empire as it is now called; it may be proper to point out the situation, extent, and population of every department, (Vid. *Statistique de la France, par Herbin.*)

Every

Every department is subdivided into three or more districts; and each of these into cantons. A canton consists of a certain number of communes, *i. e.* of towns and villages. A commune is a single town, or several villages united under the jurisdiction of a mayor and a communal municipality. Every one of the most considerable cities is divided into several communes. Each department is administered by a præfect, and as many subpræfects as it contains districts. The details of the administration descend from the subpræfects to the mayors, who are appointed by the Emperour. Every district has a primary judicial tribunal; and in every department there is a criminal tribunal. Every three departments have a tribunal of appeal, which takes cognizance of all causes determined by the tribunals of the districts under its jurisdiction and appealed. Lastly, in every canton there is a justice of the peace. All the tribunals of appeal acknowledge a superiour tribunal called the *Court of Cassation*, invested with the power of annulling the sentences of the tribunals of appeal, which it judges to be illegal, and of referring the examination of a cause to any other tribunal which it shall nominate and appoint. All the judges in these several courts are in a state of dependence upon the government, the great springs of which are the præfects and gandarmerie. The former are appointed by the Emperour, enjoy his confidence, exercise his authority in the provinces, and can be dismissed at his pleasure. The latter is composed of about 20,000 men, horse and foot, in 27 divisions. Every gandarme is a sort of spy, and an armed justice of peace, invested with the power of arresting whomsoever he pleases, and of paying domiciliary visits at all hours of the day and night.

Suppose France, including the territories recently acquired, to be divided into 10 regions, the departments in each region are the following.

I. *The*

I. *The Region, called the Reunited Country, containing* 13 *Departments.*

1. The department of *Roer*, composed of the Dutchy of Juliers, and a portion of the Electorate of Cologne, in 51° N. latitude, on the left hand of the Rhine, contains 259 square miles, and 516,287 inhabitants. It is divided into four circles, viz. Aix-la-Chapelle, 165,261 inhabitants; Cologne, 157,215; Crevelt, 137,605; Cleves, 76,206. Interspersed with heaths and marshes, this territory is, in general, fertile in grain, fruits, and pastures. There are mines of copper, iron, lead, and coal, with cold and hot mineral springs.

2. The *Rhine* and *Moselle*, formed of a part of the Electorate of Treves, south of Roer, and on the left hand of the Rhine; in 50° 15′ N. latitude; containing 290 square leagues, and 203,290 inhabitants; divided into three circles, viz. Coblentz, 69,900 inhabitants; Bon, 70,508; Simmern, 62,882. Several tracts in this department are hilly and wooded; and others, though indifferently fertile, produce considerable crops of grain, flax, hemp, wine, fruits, and pastures. There are mines of iron, quarries of marble, stone, &c.

3. *Mont-Tonnerre*, formerly a portion of the electorate of Mayence, of Hundsruck, of the Palatinate, of the bishopric of Spire, and of the dutchy of Deux-Ponts; separated from Germany on the north and east by the Rhine, in 49° 35′ north latitude. This department contains 277 square leagues, and 343,316 inhabitants; divided into four circles, viz. Mayence, 114,648 inhabitants; Spire, 121,965; Kaiserslautern, 50,135; Deux-Ponts, 55,568. It is hilly, but abundantly fertile in grain, wine, tobacco, timber, and excellent pastures. In the circle of Kaiserslautern are mines of antimony, cobalt, sulphur, mercury, coal, &c.

4. *Saare*, composed of a portion of the electorate of Treves and of Hundsruck; in 49° 40′ north latitude; on the north bounded by the department of the Rhine and the Moselle; containing 244 square leagues,

leagues, and 219,049 inhabitants; divided into four circles, viz. Treves, 66,196 inhabitants; Saarebruck, 57,478; Prum, 31,573; Birkenfeld, 63,802. Though hilly and wooded, it produces a sufficient quantity of grain for the supply of its inhabitants; but the improvement of the soil is, to a great degree, neglected. There are mines of copper, iron, lead, coal, and calamine, with mineral springs.

5. *Forets*, a part of the dutchies of Luxembourg and of Bouillon, bounded on the east by Sarre, and on the south by Moselle; in 49° 45′ north latitude; containing 340 square leagues, and 225,549 inhabitants; divided into four circles, viz. Neufchateau, 63,814 inhabitants; Luxembourg, 87,427; Bittbourg, 36,180; Dieckirch, 38,128. This department is hilly, wooded, indifferently fertile, and abounding in mines.

6. *Sambre* and *Meuse*, composed of a part of Namur, of Brabant, and of Luxembourg; in 50° 20′ north latitude; containing 229 square leagues and 165,192 inhabitants; divided into four circles, viz. Namur, 72,682 inhabitants; Dinant, 37,321; Marche, 34,205; St Hubert, 20,984. This hilly department is indifferently fertile. The circle of St Hubert is almost covered with forests. There are good pastures, with iron mines and other minerals.

7. *Jemmapes*, formed of portions of Austrian Hainaut, of Brabant, of Liege, and of Namur; containing 220 square leagues, and 412,129 inhabitants; west of the Sambre and Meuse; in 50° 30′ latitude. It is divided into three circles, viz. Tournay, 165,988 inhabitants; Mons, 138,533; Charleroy, 107,608. There is great variety of soil and productions, with mines of iron, coal, quarries of marble, &c.

8. *Lys*, formed of a part of Austrian Flanders; containing 159 square leagues, and 595,258 inhabitants; bounded on the north by the sea, and on the east by the department of Escaut; in 51° north latitude. It is divided into four circles, viz. Bruges, 149,421 inhabitants; Furnes, 49,808; Ypres, 107,103; Courtray, 164,375. The soil, in general, is fertile,

fertile, producing all sorts of grain, flax, tobacco, and excellent pastures.

9. *Escaut*, or Schelde, composed of a part of Austrian Flanders; containing 159 square leagues, and 595,258 inhabitants; on the left hand of the river of the same name, in 51° 10′ north latitude; divided into four circles, viz. Gand, 220,388 inhabitants; Audenaerde 134,698; Termonde, 180,516; L'Ecluse 59,756. There are hilly and barren tracts; but the soil in general is fertile.

10. *Deux-Nethes*, formed of the north part of Brabant; containing 143 square leagues, 249,376 inhabitants, on the right hand of the Schelde; in 51° 15′ north latitude; divided into three circles, viz. Anvers, 114,507 inhabitants; Turnhout, 62,172; Malines, 72,697. The soil is sandy and indifferently fertile.

11. *Meuse Inferieure*, formed of a part of Gueldre, and of the territories of Liege, Maestricht, and Venloo; westward of Roer; in 50° 50′ north latitude. It contains 190 square leagues, and 232,662 inhabitants; divided into three circles, viz. Maestricht, 107,410 inhabitants; Hasselt, 60,399; Ruremonde, 64,853. It is partially fertile, yielding grain, fruits, and good pastures.

12. *Ourthe*, formed of part of Liege and of Limbourg; containing 213 square leagues, and 313,876 inhabitants; north-east of Sambre and Meuse; in 50° 35′ north latitude. This department is divided into three circles, viz. Liege, 151,975 inhabitants; Malmedy, 100,565; Huy, 61,336. The first of these circles abounds in mines of iron, coal, and alum; in the second are spa waters; in the third are mines of iron, alum, sulphur, coal, &c.

13. *Dyle*, formed of a part of the dutchy of Brabant; containing 181 square leagues, and 363,956 inhabitants; north-east of Jemmapes; in 50° 45′ north latitude; divided into three circles, viz. Bruxelles, 174,675 inhabitants; Louvain 112,040; Nevelles, 77,241. Its fertile soil abounds in natural products, and yields grain, flax, hemp, and fruits.

II. *The Second or Northern Region, containing* 12 *Departments.*

1. *Pas-de-Calais*, composed of Artois, Calaisis, and Boulonnais, lying in 50° 30′ N. latitude, between the department Du Nord and the British Channel; containing 328 square leagues, and 566,061 inhabitants; divided into six circles, viz. Boulogne, 71,304 inhabitants; St Omar, 96,765; Bethune, 114,669; Arras, 136,389; St Pol, 76,061; Montreuil-sur-Mer, 70,882. A ridge of low hills extends from Abbeville to Boulogne. The soil of this department, in general, is fertile, yielding all sorts of grain, flax, and pastures.

2. *Du Nord*, composed of French Flanders, containing 278 square leagues, and 774,000 inhabitants, in 50° 20′ N. latitude, south-west of Jemmapes; divided into six circles, viz. Dunkirk, 80,242 inhabitants; Hazebrouck, 106,241; Lille 221,228; Cambray, 108,561; Avesnes, 91,746; Douay, 166,442. The soil of Hazebrouck is marshy; but the other districts are fertile, yielding abundance of grain, fruits, and pastures. Hazebrouck contains the forest of Nieppe; and in Douay are the mineral springs of St Amand.

3. *Aisne*, formed of Vermandois and Thierache, containing 379 square leagues, and 530,628 inhabitants, in 49° 30′ N. latitude, between Ardennes and Somme; divided into five circles, viz. Chateau-Thiery, 55,644 inhabitants; Soissons, 160,676; Laon, 135,659; St Quentin, 83,246; Vervins, 95,405. In this department there is a great variety of soil, which yields plenty of grain, fruits, and pastures.

4. *Seine* and *Marne*, a portion of French Gatinais, and of Upper and Lower Brie, containing 300 square leagues, and 298,815 inhabitants, in 48° 45′ N. latitude, south of Aisne; divided into five circles, viz. Melun, 55,830 inhabitants; Coulommiers, 49,420; Meaux, 88,411; Fontainbleau, 57,966; Provins, 47,190. This department is diversified with forests, cultivated tracts, and pastures.

5. *Seine*, formed of the Isle of France, containing 24 square leagues, and 629,763 inhabitants, in 48° 50′ N. latitude; divided into three circles, viz. St Denis, 42,984; Sceaux, 39,973; Paris, 546,856. This department is diversified with plains and eminences; its soil is of various qualities, and in some parts indifferently fertile. There are fossils of all kinds, especially in the neighbourhood of Paris.

6. *Seine* and *Oise*, a portion of Vexin-Francais, of Hurepoix, of Mautois, &c. containing 286 square leagues, and 429,523 inhabitants, in 48° 30′ N. latitude, south of the department of Oise; divided into five circles, viz. Mantes, 59,209 inhabitants; Pontoise, 91,068; Versailles, 163,149; Corbeil, 56,507; Etampes, 58,890. The soil of the two last circles is indifferently fertile, but the others yield abundance of grain, fruits, and pastures.

7. *Eure* and *Loire*, composed of a part of Beauce and of Perche, containing 300 square leagues, and 259,967 inhabitants, in 48° 15′ N. latitude, westward of Seine and Oise. It is divided into four circles, viz. Nugent-le-Rotrou, 40,736 inhabitants; Chartres, 98,013; Chateaudun, 52,394; Dreux, 68,824. This department, on account of its great fertility, is called the granary of Paris, and it abounds in fruits and rich pastures.

8. *Eure*, formerly Ouche, south of Seine Inferieure, in 49° N. latitude; containing 307 square leagues, and 415,574 inhabitants; divided into five circles, viz. Pont-Audemer, 89,758 inhabitants; Louviers, 64,299; Andelys, 62,211; Evreux, 120,495; Bernay, 78,843. Its fertile soil yields grain, hemp, flax, and pastures. There are considerable forests.

9. *Seine Inferieure*, formed of Roumois, and the territories of Caux and Bray, on the west bounded by the British Channel, in 49° N. latitude, containing 307 square leagues, and 642,773 inhabitants; divided into five circles, viz. Havre, 117,735 inhabitants; Yvetot, 129,222; Dieppe, 106,082; Neuchatel, 82,506; Rouen, 207,228. It yields abundance of grain, fruits, and pastures.

10.

10. *Somme*, composed of Amienois, Ponthieu, Vimeux, and Santerre, between Calais and Oise, in 49° 45′ N. latitude, containing 312 square leagues, and 465,034 inhabitants. Fertile in grain, fruits, hemp, flax, and pastures, with some forests, it is divided into five circles, viz. Abbeville, 114,069 inhabitants; Doulens, 45,627; Peronne, 91,670; Montdidier, 62,668; Amiens, 151,209.

11. *Oise*, formerly Beauvaisis, north of Seine and Oise, in 49° 25′ N. latitude, containing 298 square leagues, and 369,086 inhabitants. The soil, consisting of plains and eminences, is of different qualities; but, in general, is fertile, yielding grain, flax, pastures, &c. It is divided into four circles, viz. Beauvais, 122,786 inhabitants; Clermont, 34,942; Compiegne, 88,048; Senlis, 73,310.

III. *The north-east Region including* 10 *Departments.*

1. *Ardennes*, composed of the principality of Sedan, of Rathelais, and of Porcien, containing 278 square leagues, and 263,936 inhabitants, in 49° 40′ N. latitude, north of Marne. This department is divided into five circles, viz. Rocroy, 51,935 inhabitants; Mezieres, 49,524; Sedan, 53,999; Rethel, 54,235; Vouziers, 54,243. In some tracts the soil is fertile; in some, rye is the principal product; and others are noted for excellent pastures. This department, in general, abounds in timber, iron, coal, &c.

2. *Meuse*, composed of Verdunois and Barrois, eastward of Marne, in 49° N. latitude; containing 318 square leagues, and 275,898 inhabitants. Diversified with hills and plains, yielding forests, grain, and pastures, it is divided into four circles, viz. Bar-sur-Ornain, 74,168 inhabitants; Commercy, 73,103; Montmedi, 59,572; Verdun, 69,055. There are mines of iron and other metals.

3. *Moselle*, formed of the territory of Messin, of French Luxembourg, and part of German Lorraine, in 49° 15′ N. latitude, eastward of Meuse;

containing 328 square leagues, and 354,788 inhabitants. Fertile in grain, wine, fruits, and pastures, it is divided into four circles, viz. Briey, 48,552 inhabitants; Thionville, 98,456; Metz, 120,810; Sarregue, mines, 86,970. There are mines of iron and coal.

4. *Bas-Rhin*, formerly Lower Alsace, on the left bank of the Rhine, in 48° 45′ N. latitude; containing 288 square leagues, and 444,858 inhabitants. This department, lying between Mount Vosges and the Rhine, is diversified with eminences and plains, producing grain, wine, fruits, tobacco, safron,—with forests and pastures. It is divided into four circles, viz. Wissembourg, 113,786 inhabitants; Saverne, 78,398; Strasbourg, 155,647; Barr, 97,027.

5. *Haut Rhine*, composed of Upper Alsace, Sundtgaut, Porentruy, with a part of the bishopric of Bale, containing 280 square leagues, and 384,285 inhabitants, in 47° 40′ N. latitude, on the left hand of the Rhine. The soil in some tracts is indifferently fertile, and in others yields all sorts of grain, wine, and pastures. It is divided into five circles, viz. Colmar, 144,821 inhabitants; Altkirch, 85,515; Delemont, 35,779; Porentruy, 34,910; Befort, 83,260. There are mines of silver, copper, lead, iron, and coal,---with mineral springs.

6. *Vosges*, the south part of Lorraine, west of Upper Rhine, in 48° 15′ N. latitude; containing 3,296 square leagues, and 308,056 inhabitants; divided into five circles, viz. Neufchateau, 55,247 inhabitants; Mirecourt, 66,649; Epinal, 62,592; St Die, 75,298; Remiremont, 48,270. The soil in some tracts is light and sandy, and in others fertile. There are several ridges of hills partly covered with forests, and containing mines of silver, copper, iron, lead,---with quarries of marble, granite, &c.

7. *Haute-Marne*, formerly Vallage and Bassigny, in 48° N. latitude, west-ward of Vosges; containing 315 square leagues, and 225,530 inhabitants. It is divided into three circles, viz. Wassy, 60,392 inhabitants; Chaumont, 75,314; Langres, 89,824. Many pleasant vallies yield grain, wine,

wine, and good pastures. The wooded hills contain iron mines and mineral springs.

8. *Aube*, a portion of Champagne, westward of Marne, in 48° 20′ N. latitude; containing 306 square leagues, and 240,662 inhabitants. It is divided into five circles, viz. Arcis-sur-Aube, 31,976 inhabitants; Nogent-sur-Seine, 28,307; Troyes, 86,625; Bar-sur-Aube, 43,474; Bar-sur-Seine, 50,280. The northern district of this department consists chiefly of a light soil, whose principal product is rye. The south part is abundantly fertile. There are considerable forests and iron mines.

9. *Marne*, composed of Remois and Perthois, with a part of Brie; containing 405 square leagues, and 310,491 inhabitants, westward of Meuse, in 49° N. latitude; divided into five circles, viz. Reims, 105,472 inhabitants; St Menehould, 30,840; Vitry-sur-Marne, 49,706; Chalons-sur-Marne, 37,060; Epernay, 87,413. The soil, indifferently fertile in grain, yields good wine and pastures. There are some forests near the extremities of the department.

10. *Meurthe*, formerly Tulois and the south part of Lorraine, bounded on the east by Lower Rhine, and on the south by Vosges, in 48° 40′ N. latitude; containing 310 square leagues, and 326,107 inhabitants; divided into five circles, viz. Toul, 59,689 inhabitants; Nancy, 88,384; Chateau-Salins, 50,554; Sarrebourg, 56,091; Luneville, 87,389. The soil of the plains is fertile in grain, wine, fruits, &c.; and that of the hills is covered with woods and pastures. There are iron mines, quarries of marble and stone, mineral springs, &c.

IV. *The Eastern Region, comprehending* 11 *Departments.*

1. *Cote-d'Or*, composed of the territory of Montagne, of Auxois, and of Dijonnais; in 47° 30′ N. latitude; south of Aube and Upper Marne; containing 445 square leagues, and 347,642 inhabitants. It is divided into

into four circles, viz. Chatillon-sur-Seine, 47,885 inhabitants; Semur, 69,716; Dijon, 122,532; Beaune, 107,509. This department consists of fruitful plains and hills planted with fruit-trees and vines. There are iron mines, quarries of marble, &c.

2. *Haute-Saone*, formerly Amont, west of Upper Rhine, in 47° 30′ N. latitude; containing 235 square leagues, and 287,461 inhabitants; divided into three circles, viz. Gray, 81,286 inhabitants; Vesoul, 102,238; Lure, 103,937. The soil, for most part level, yields grain, wine, hemp, fruits, and pastures. There are considerable forests, mines of iron, salt and coal quarries, mineral springs, &c.

3. *Doubs*, formerly Besançon, between Upper Rhine and Jura, in 47° N. latitude; containing 251 square leagues, and 227,075 inhabitants; divided into four circles, viz. Besançon, 92,836 inhabitants; Baume, 59,123; St Hypolite, 32,972; Pontarlier, 42,144. Diversified with plains and hills, it produces grain and wine. The hilly tract on the border of Switzerland is partially clothed with forests and scanty pastures. Iron mines, with quarries of marble, stone, coal, &c. abound.—There are several extensive marshes.

4. *Leman*, composed of Gex and Geneva, together with the north part of Savoy, in 46° 10′ N. latitude, on the frontier of Switzerland; containing 197 square leagues, and 215,884 inhabitants; divided into three circles, viz. Geneva, 103,550 inhabitants; Thonon, 39,465; Bonneville, 72,869. It consists of hills, vallies, and plains;---producing grain, wine, fruits, and pastures. There are forests and iron-mines.

5. *Mont-Blanc*, formerly Savoy, in 45° 30′ N. latitude, on the border of Switzerland; containing 390 square leagues, and 283,106 inhabitants. It is divided into four circles, viz. Chambery, 122,817 inhabitants; Annecy, 61,430; Moultiers, 48,795; St Jean-de-Maurienne, 50,064. This department consists of vallies yielding grain, wine, and pastures,---barren rocks,---and high mountains covered with ice and snow.

There

There are forests, mines of iron, copper, lead, coal, with quarries of marble, slate, granite, &c.

6. *Isere*, formerly Gresivaudan and Viennois, in 45° 30′ N. latitude, west of Mont-Blanc; containing 452 square leagues, and 441,208 inhabitants; divided into four circles, viz. Vienne, 104,689 inhabitants; Tour-du-Pin, 99,053; Grenoble, 169,623; St Marcellin, 67,843. It consists of barren and of marshy plains, deep vallies, and high mountains partially wooded. The chief products are grain, hemp, roots, some good wine, and excellent pastures. There are mines of iron, copper, lead, coal, quarries, and mineral springs.

7. *Loire*, formerly Forez, in 45° 30′ N. latitude, west of Rhone, containing 259 square leagues, and 292,588 inhabitants; divided into three circles, viz. Roanne, 95,668 inhabitants; Montbrison, 97,659; St Etienne, 99,261. This department is diversified with plains, hills, and mountains. Both banks of the Loire are level, yielding grain, hemp, and pastures. The gentle eminences near Roanne are covered with vines. Mont-Pilat, a ridge of high mountains, is situate at the south-east extremity of the department, near the confines of Ardeche. There are forests and mines of iron, lead, and coal.

8. *Saone* and *Loire*, composed of Autunois, Charollais, Chalonnais, and Maconnais, in 46° 30′ N. latitude, westward of Jura, containing 451 square leagues, and 447,565 inhabitants. It is divided into five circles, viz. Autun, 66,851 inhabitants; Charolles, 104,645; Chalons-sur-Saone, 105,173; Louhans, 74,658; Macon, 96,238. Intersected with mountains, hills, vallies, and plains; the soil, in general, is fertile, yielding wheat, rye, fruits, wine, and pastures. There are forests, quarries of marble, mines of iron, coal, mineral springs, &c.

9. *Jura*, composed of the bailliages of Dole and Aval, in 46° 40′ N. latitude, between Saone and Switzerland, containing 256 square leagues, and 289,865 inhabitants. It is divided into four circles, viz. Dole, 63,581 inhabitants; Poligny, 69,378; St Claude, 49,428; Lons-le-Saulnier,

Soulnier, 107,478. The plains produce grain, wine, fruits, and pastures; the hills yield little grain, but abound in pastures and extensive forests. There are mines of copper, lead, iron, salt, coal, with quarries of marble, stone, &c.

10. *Ain*, formed of Bresse, Bugey, and the principality of Dombes, in 46° 5′ N. latitude, south of Jura and Saone, containing 289 square leagues, and 284,455 inhabitants; divided into four circles, viz. Bourg, 108,828 inhabitants; Nantua, 37,257; Belley, 75,820; Trevoux, 62,550. The north-east and eastern districts are covered with mountains, which are a continuation of the Jura chain. Several other tracts are hilly; and in the lower territory the surface is unequal. The thin soil in the vallies of the north-east division yields good pastures with thick forests; but in the south-east corner the soil is fertile, producing grain, wine, hemp, fruits, roots, &c. The south-west part consists of marshes, pools, bleak and thinly inhabited tracts; and in the north-west corner, the soil, interspersed with wastes, is tolerably good and well cultivated. Two-thirds of the whole department are composed of ill grown woods, barren hills, rocks, lakes, marshes, &c.

11. *Rhone*, formerly Lyonnais and Beaujolais, between Ain and Loire, in 46° N. latitude, containing 147 square leagues, and 345,644 inhabitants; divided into two circles, viz. Villefranche, 106,262 inhabitants; Lyon, 239,382. The plains yield scanty crops of grain and pastures; the gentle eminences are covered with vineyards, and the summits of the mountains are clothed with pines. There are mines of copper, lead, coal, quarries of marble, freestone, &c.

V. *The south-east Region, comprehending* 12 *Departments.*

1. *Haute-Loire*, composed of Velay and Cevennes, in 45° N. latitude, south of Loire and Puy de Dome, containing 264 square leagues,

and 237,901 inhabitants; divided into three circles, viz. Brioude, 70,596 inhabitants; Puy, 103,068; Yssengeaux, 64,237. This mountainous territory, covered with snow six months in the year, yields grain, fruits, &c. sufficient for the inhabitants, with good pastures, mines of antimony, &c.

2. *Ardeche*, formerly Vivarais, south-east of Upper Loire, in 44° 40′ N. latitude, containing 299 square leagues, and 268,525 inhabitants; divided into three circles, viz. Tournon, 108,128 inhabitants; Privas, 82,344; Argentiere, 77,053. It is intersected by hills covered with woods and scanty pastures. The gentle eminences yield all sorts of vegetable products.

3. *Drome*, formed by Valentinois and Diois, on the left hand of the Rhone, in 44° 35′ N. latitude, containing 311 square leagues, and 231,188 inhabitants. Hilly and indifferently fertile, it is divided into four circles, viz. Valence, 96,976 inhabitants; Die, 58,090; Nyon, 30,135; Montelimar, 45,987.

4. *Hautes-Alpes*, composed of Gapençois, Embrunois, and Briançonnais, in 44° 30′ N. latitude, eastward of Drome and south of Mont-Blanc, containing 286 square leagues, 118,322 inhabitants; divided into three circles, viz. Briançon, 26,898 inhabitants; Embrun, 26,968; Gap, 64,456. Two-thirds of this department are covered by lofty mountains, between which are deep and narrow vallies yielding little grain, but good pastures. There are mines of copper, iron, lead, &c.

5. *Basses-Alpes*, formerly Upper Province, south of Upper Alps, in 44° 5′ N. latitude, containing 273 square leagues, and 140,121 inhabitants; divided into five circles, viz. Barcelonette, 18,154 inhabitants; Castellane, 19,802; Digne, 46,807; Sisteron, 25,410; Forcalquier, 29,948. A ridge of hills divides this department into two zones. The two first named circles are in the northern zone, the naturally barren soil of which, by proper cultivation, yields rye, barley, fruits, &c. The hills are partially wooded, and contain mines of copper, iron, and lead,

with mineral springs. In the southern districts, there are some plantations of vines, with abundance of honey, wax, and roots.

6. *Alpes Maritimes*, formerly the country of Nice, a maritime territory in 44° N. latitude, containing 160 square leagues, and 87,071 inhabitants; divided into three circles, viz. Nice, 41,986 inhabitants; Monaco, 26,874; Puget-Theniers, 18,211. This department, consisting of high mountains and narrow intermediate vallies, yields some grain, wine, fruits, trees, and pastures.

7. *Var*, formerly Lower Provence, a maritime territory, in 43° 30′ N. latitude, containing 378 square leagues, and 269,142 inhabitants; divided into four circles, viz. Brignoles, 66,034 inhabitants; Draguignan, 71,383; Grasse, 55,240; Toulon, 76,485. The northern districts, covered with mountains, yield little grain; but, throughout the department, grapes, fruits of all sorts, medicinal plants, forests and pastures, abound. The plains of Brignoles and Toulon are planted with fruit trees and vines. There are mines of different metals, and quarries of marble.

8. *Bouches du Rhone*, a portion of Lower Provence, in 43° 40′ N. latitude, containing 269 square leagues, and 220,072 inhabitants; divided into three circles, viz. Marseille, 142,058 inhabitants; Aix, 97,938; Tarascon, 80,076. Many of the hills in the northern districts are bare rocks, destitute of soil and verdure. The chief productions of the department are grain, wine, silk, olives, fruits, and pastures. There are mines of iron, alum, vitriol, with quarries of marble, &c. Pools and marshes are scattered near the coast.

9. *Gard*, composed of the dioceses of Nimes, of Alais, and Uzes, westward of Vaucluse, in 44° N. latitude, containing 292 square leagues, and 309,052 inhabitants; divided into four circles, viz. Alais, 65,446 inhabitants; Uzes, 72,033; Nimes, 113,785; Vigan, 57,788. Intersected by hills, the soil, in general, is abundantly fertile, producing grain, wine, delicious fruits, oil, and pastures. There are mines of copper,

copper, iron, vitriol, and other minerals, quarries of marble, and mineral springs.

10. *Vaucluse*, formerly Venaissin, and the principality of Orange, on the left hand of the Rhone, in 44° N. latitude, containing 186 square leagues, and 190,180 inhabitants; divided into four circles, viz. Orange, 54,293 inhabitants; Avignon, 47,351; Carpentras, 39,714; Apt, 48,822. This department consists of plains, marshes, gentle eminences, and hills. Mont-Ventoux is upwards of 6000 feet above the level of the sea. The soil is various, and indifferently cultivated. The products are grain, silk, fruits, and roots. There is coal impregnated with sulphur, a few metallic substances, potter's earth, mineral springs, &c.

The Island of Corsica.

This island is divided into two departments, viz. Golo and Liamone.

11. *Golo*, the northern division of Corsica, in 42° 30′ N. latitude, containing 165 square leagues, and 103,466 inhabitants, is subdivided into three circles, viz. Bastia, 47,842 inhabitants; Calvi, 20,282; Corte, 35,342. There are several lofty mountains near the centre of a chain that traverses the island longitudinally. The most considerable lakes are Ino and Creno, the former of which is of unknown depth. The soil is tolerably fertile, yielding barley, millet, olives, chesnuts, wine, fruits, &c. On the hills are forests and excellent pastures.

12. *Liamone*, the southern part of Corsica, in 41° 30′ N. latitude, containing 149 square leagues, and 63,347 inhabitants; divided into three circles, viz. Vico, 10,049 inhabitants; Ajaccio, 26,918; Sartene, 26,380. In the vallies and acclivities of the hills, the soil is fertile, yielding grain, fruits, pastures, and in some districts delicious wine.

Elbe, and its dependencies, *Capraia*, *Pianosa*, *Palmajola*, and *Monte Christo*, united to the French territories, August 26. 1802, form a distinct department.

Elbe, of a triangular figure, and about 20 leagues in extent, contains 12,200 inhabitants. The hills are covered with odoriferous plants and trees; the plains are of a thin soil, and badly cultivated; the vallies and eminences yield abundance of fruit. The harbour of Porto Ferrajo has a dangerous entrance. Near the town, on a steep rock, stands the tower of Voltarajo, which can be reduced by famine only.

Porto Longone, so called from the harbour which is long and narrow, is divided into the upper and lower towns. The latter lies on the shore of the harbour; and the former contains a citadel on the summit of the hill.

Capraja, between the north-east extremity of Corsica and Tuscany, is a small hilly island, of a dry and stony soil, containing 1,500 inhabitants. In its vicinity are several islets inhabited by fishermen only.—*Pianosa* contains quarries of granite.

VI. *The Southern Region comprehends* 9 *Departments.*

1. *Correze*, formerly Lower Limosin, in 45° 15′ N. latitude, south of Creuse, and south-west of Dome, containing 296 square leagues, and 243,654 inhabitants; divided into three circles, viz. Ussel, 47,248 inhabitants; Tulle, 105,930; Brives, 90,476. The soil, in general, of an indifferent quality, yields little grain, chesnuts in abundance, good wine, and excellent pastures. There are mines of various metals and minerals, as iron, lead, copper, antimony, &c.

2. *Cantal*, a portion of Upper Auvergne, in 45° N. latitude, eastward of Correze, containing 294 square leagues, and 237,224 inhabitants. It is divided into four circles, viz. Mauriac, 56,554 inhabitants; Murat, 32,817; St Flour, 60,586; Aurillac, 87,267. The soil is indifferently fertile, and badly cultivated; but pastures are abundant. In the eastern district, many of the hills appear to have been of volcanic origin. There are copper mines, coal quarries of marble, and mineral springs.

3.

3. *Lozere*, composed of Gevaudan and part of the Cevennes, 44° 30′ N. latitude, south-east of Cantal, and south of Upper Loire, containing 269 square leagues, and 156,936 inhabitants; divided into three circles, viz. Marvejols, 60,750 inhabitants; Mende, 52,813; Florac, 42,373. The northern districts consist partly of granite mountains; towards the middle of the department the hills are calcareous; and in the southern part the Cevennes are composed of schistus. A considerable proportion of this territory is not susceptible of culture. The chief products are barley, flax, hemp, fruits, and pastures for sheep. There are mines of iron, copper, lead, antimony, with mineral springs.

4. *Herault*, a portion of Lower Languedoc, in 43° 30′ N. latitude, south of Lozere, containing 317 square leagues, and 291,957 inhabitants; divided into four circles, viz. Lodeve, 48,280 inhabitants; Montpellier, 100,815; Beziers, 106,176; St Pons, 36,686. This department consists of hills, vallies, and plains of various soil, yielding little grain, but abundance of fruit, good wine, and pastures. There are considerable forests of oak, mines of lead, coal, quarries of marble, and mineral springs.

5. *Pyrenees Orientales*, formerly Roussillon, in 42° 40′ N. latitude, the south-east corner of the sixth region, containing 212 square leagues, and 117,764 inhabitants; divided into three circles, viz. Perpignan, 51,961 inhabitants; Ceret, 24,750; Prades, 41,053. This department is fertile in corn, wine, oil, flax, hemp, fruits, and pastures. On the hills there is little wood, but variety of medicinal plants and herbs. There are several lofty mountains on the south and west boundaries, as Massane, Canigou, &c.

6. *Aude*, a portion of Lower Languedoc, in 43° N. latitude, between Herault and Pyrenees Orientales, containing 324 square leagues, and 226,198 inhabitants; divided into four circles, viz. Castelmaudary, 45,733 inhabitants; Carcassonne, 79,365; Narbonne, 41,239; Limoux, 59,861. Some tracts are fertile, but indifferently cultivated. The products

ducts are grain, wine, fruits, and pastures. Along the coast are salt marshes. The west and north-west districts consist of mountains, hills, vallies, and little plains. There are some forests, with mines of different metals,—quarries of marble,—and mineral springs.

7. *Tarn*, a portion of Upper Languedoc, in 43° 40′ N. latitude, westward of Herault, containing 307 square leagues, and 272,163 inhabitants; divided into four circles, viz. Gaillac, 59,501 inhabitants; Albi, 63,064; Castres, 106,918; Lavaur, 42,680. Diversified with hills and plains, this department abounds in productions of various sorts, viz. grain, flax, hemp, wine, fruits, and pastures. There are considerable forests, with mines of iron, copper, lead, coal, quarries of marble, &c.

8. *Lot*, formerly Quercy, in 44° 30′ north latitude, north north-west of Tarn, and equidistant from both seas, containing 362 square leagues, and 383,684 inhabitants; divided into four circles, viz. Montauban, 115,954 inhabitants; Figeac, 80,373; Gourdon, 75,861; Cahors, 111,496. This department, in general hilly, contains some fruitful plains and vallies. Its products are grain, wine of an excellent quality, fruits, silk, hemp, flax, tobacco, and pastures. There are iron mines, coal, and mineral springs.

9. *Aveiron*, formerly Rouergne, in 44° 30′ north latitude, eastward of Lot, containing 474 square leagues, and 328,195 inhabitants; divided into five circles, viz. Espalion, 58,855 inhabitants; Milhau, 56,272; St Affrique, 50,201; Rodez, 80,622; Villefranche, 82,245. Intersected by mountains often covered with snow, this department is indifferently fertile; yielding grain, wine, hemp, excellent pastures, with considerable forests, mines of iron, copper, lead, coal, and mineral springs.

VII. *The South-West, or Garonne Region, comprehends* 9 *Departments.*

1. *Gironde*, a maritime department, composed of a portion of Guienne, in 44° 40′ north latitude, containing 537 square leagues, and 519,685

519,685 inhabitants; divided into six circles, viz. Blaye, 52,026 inhabitants; Libourne, 102,576; Reole, 53,705; Bazas, 47,549; Bordeaux, 233,021; Lesparre, 30,808. The soil of this department is various. The east and north-east districts are the most fertile. In the valley between Agen and Bordeaux, the soil, though light, is of an excellent quality. The west and south-west tracts are sandy, marshy, and barren or indifferently fruitful. The products of the soil are grain, hemp, delicious wine and fruits, pastures, considerable forests of pines, stone quarries, mineral springs, &c.

2. *Dordogne*, formerly Perigord, in 45° north latitude, north-east of Gironde and west of Correze, containing 451 square leagues, and 410,350 inhabitants; divided into five circles, viz. Nontron, 68,393 inhabitants; Perigueux, 82,936; Sarlat, 93,458; Bergerac, 103,927; Riberac, 61,636. The tracts bathed by the Ille and the Dordogne produce grain, wine, and pastures; but the other districts are of an inferior quality, and not more than one-third of the department is cultivated. There are mines of iron.

3. *Lot* and *Garonne*, formerly Agenois, south of Correze, in 44° 30′ north latitude, containing 308 square leagues, and 352,908 inhabitants; divided into four circles, viz. Agen, 107,840 inhabitants; Marmande, 112,091; Nerac, 43,119; Villeneuve d'Agen, 89,858. The surface of this department is diversified by fruitful eminences; but two-thirds of the soil are of a very inferior quality. There are several marshy tracts; the Landes consist of moveable sands; some parts near the Lot have a rugged and barren aspect; but the circle of Villeneuve d'Agen is distinguished by its fertility. The products are grain, fruits, few trees, and indifferent pastures. There are iron mines.

4. *Haute-Garonne*, formerly Upper Languedoc, in 43° 20′ north latitude, containing 408 square leagues, and 432,263 inhabitants; divided into five circles, viz. Castel-Sarrazin, 66,397 inhabitants; Toulouse, 126,140; Villefranche, 53,356; Muret, 78,905; St Gaudens, 107,465;

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This department, lying between Lot and the frontier of Spain, consists of hills and tolerably fertile plains; producing grain, fruits, wine of an indifferent quality, pastures, and considerable forests, with quarries of marble and mineral springs.

5. *Ariege*, formerly Foix and Sault, in 43° north latitude, containing 244 square leagues, and 191,693 inhabitants; divided into three circles, viz. Pamiers, 59,333 inhabitants; St Girons, 66,068; Foix, 66,292. This territory, for the most part covered with hills, lies on the confines of Spain, and eastward of Upper Garonne. The southern districts produce pastures, medicinal plants and forests, with iron mines, quarries of marble, jasper, &c. The northern parts, somewhat more level, yield grain, wine, and excellent fruits.

6. *Hautes-Pyrenees*, formerly Biggore, in 43° north latitude, between Upper Garonne and Lower Pyrenees, containing 235 square leagues, and 206,700 inhabitants; divided into three circles, viz. Tarbes, 87,225 inhabitants; Bagneres, 78,099; Argeles, 41,376. The plains in this department yield little wheat, but abundant crops of rye, barley, and millet, excellent wine, flax, and pastures. The hills produce considerable forests, with mines of iron and lead, quarries of marble, slate, and mineral springs.

7. *Basses-Pyrenees*, composed of Bearn, Navarre, Basque-Francais, with a part of Chalosse and of Landes, in 43° 10′ north latitude, containing 388 square leagues, and 385,708 inhabitants; divided into five circles, viz. Pau, 99,486 inhabitants; Oleron, 69,484; Mauleon, 65,447; Bayonne, 69,486; Orthes, 81,805. Bounded on the one side by the Pyrenees, and on the other by the ocean, this department presents a great variety of soil, and diversity of prospect. The mountains are crowned with woods; the hills are covered with vines; the vallies are rich and populous; the heaths are wild and uncultivated. The plains yield wheat, rye, barley, oats, millet, flax, fruits, and pastures. There

are mines of silver, copper, iron, quarries of marble, granite, slate, and mineral springs.

8. *Les Landes*, formerly Landes and Chalosse, districts of Gascogne, in 44° north latitude, a maritime territory between Lower Pyrenees and Geronde, containing 468 square leagues, and 228,889 inhabitants; divided into three circles, viz. Mont-de-Marsan, 72,968 inhabitants; St Sever, 78,125; Dax, 77,796. The soil of this department is indifferently fertile, the north and west parts consisting of heaths and marshes. It yields, however, some grain, fruits, and excellent pastures. There are forests of pines, quarries, and mineral springs.

9. *Gers*, composed of Condommois, Armagnac, and Comminges, in 43° 40′ north latitude, north of Upper Pyrenees, containing 339 square leagues, and 291,845 inhabitants; divided into five circles, viz. Condom, 67,103 inhabitants; Lectoure, 57,445; Auch, 52,825; Lombes, 37,393; Merande, 77,079. The soil of this hilly department is indifferently fertile, yielding moderate crops of grain, wine, fruits, and good pastures.

VIII. *The Western Region comprehending* 9 *Departments.*

1. *Loire Inferieure*, formerly Upper Bretagne, a maritime territory on either hand of the Loire, in 47° 15′ north latitude, containing 382 square leagues, and 368,506 inhabitants; divided into five circles, viz. Savenay, 91,132 inhabitants; Chateau-Briant, 50,244; Ancenis, 36,949; Nantes, 157,940; Paimboeuf, 32,241. This department produces wheat, rye, flax, wine, and excellent pastures, with mines of iron, coal, quarries of marble, &c. Savenay yields cyder and wine of an inferior quality. The second circle is almost one continued forest. Nantes is agreeably diversified and fertile. From the marshes of Paimboeuf much salt is extracted.

2. *Mayenne* and *Loire*, formerly Anjou, in 47° 20′ north latitude, eastward of Loire Inferieure, containing 370 square leagues, and 376,033 inhabitants; divided into five circles, viz. Segre, 58,176 inhabitants; Beaugé, 60,669; Saumur, 90,104; Beaupreau, 74,650; Angers, 92,434. Diversified with hills and plains, this department yields grain, flax, hemp, fruits, abundant pastures, considerable forests, mines of coal, &c. quarries of marble, stone, and slate.

3. *Indre* and *Loire*, formerly Tourraine, in 47° 10′ north latitude, north of Vienne, and traversed by the Loire, containing 325 square leagues, and 278,758 inhabitants; divided into three circles, viz. Tours, 128,635 inhabitants; Loches, 57,094; Chinon, 93,029. This department, on account of its fecundity, has been styled the garden of France. The vallies and eminences near the borders of the large rivers are fertile, but at some distance are heaths and uncultivated tracts. The district lying between the Loire and the Cher is of a light and sandy but productive soil. The peninsule, formed by the Indre, the Loire, and the Vienne, is noted for its fertility. A tract called Brenne is moist, but tolerably fruitful. The principal products are rye, barley, millet, wine, fruits, and pastures. There are mines of iron and mineral springs.

4. *Vienne*, formerly Poitou, westward of Indre, in 46° 30′ N. latitude, containing 364 square leagues, and 250,807 inhabitants; divided into five circles, viz. Loudun, 32,256 inhabitants; Chatellerault, 46,518; Montmobillon, 48,570; Civray, 38,971; Poitiers, 84,492. It is diversified with hills, plains, heaths, and cultivated tracts, yielding grain, wine, fruits, flax, and good pastures. There are considerable forests.

5. *Haute-Vienne*, formerly Limosin, south-east of Vienne, and west of Creuse, in 46° N. latitude, containing 288 square leagues, and 259,795 inhabitants; divided into four circles, viz. Bellac, 85,388 inhabitants; Limoges, 92,637; St Yrieix, 38,251; Rochechouart, 43,519. The soil of this department is, in general, of an indifferent quality; yielding rye, little wheat, and tolerable pastures. The hills are covered with chesnut-trees

nut-trees and woods. There are mines of iron, lead, copper, coal, and quarries of marble.

6. *Charente*, composed of Angoumois, with a portion of Saintonge and Limosin, south of Vendée, in 45° 45′ N. latitude, containing 300 square leagues, and 321,477 inhabitants; divided into five circles, viz. Ruffec, 50,670 inhabitants; Confolens, 58,503; Angouleme, 117,617; Barbezieux, 50,542; Cognac, 44,145. The soil of this department is various. One-third of it nearly is employed in the culture of vines; another third in grain; and the remainder is covered with woods, heaths, rocks, and pastures.

7. *Charente Inferieure*, composed of Saintonge and Aunis, a maritime territory, between Charente and Gironde, in 45° 30′ N. latitude, containing 366 square leagues, and 402,105 inhabitants; divided into six circles, viz. Rochelle, 69,795 inhabitants; Rochefort, 44,981; St Jean d'Angely, 68,155; Saintes, 98,255; Jonsac, 74,900; Marennes, 46,019. The soil, in general, is fertile, yielding grain, wine, fruits, plants, and excellent pastures. A marshy tract along the coast is insalubrious. There are mines of iron, quarries, and mineral springs. The islands of Re and Oleron belong to this department.

8. *Vendée*, formerly Lower Poitou, lying between Charente and Loire Inferieure, in 46° 30′ N. latitude, containing 373 square leagues, and 270,271 inhabitants; divided into three circles, viz. Sables d'Olonne, 87,653 inhabitants; Montaigu, 65,943; Fontenay-le-Peuple, 116,675. This department, watered by many copious streams, is one of the most fertile in France. It is divided by nature into the *thicket*, the *marsh*, and the *plain*. The first, so called on account of the great quantity of wood with which it is covered, includes five-ninths nearly of the whole territory. Its soil is of various qualities, yielding grain, wine, and excellent pastures. The second, being the west and south coasts, formerly covered by the sea, is impregnated with saline substances. Notwithstanding, it is fertile, producing plentiful crops of grain, flax, hemp, and pastures.

The third is a fertile and well cultivated strip of land, between the thicket and the south border of the department. *Bouin*, an island containing about three square leagues, participates in all the qualities of the Marsh. Not many years ago, it was separated from the mainland by a narrow channel, which has now almost disappeared. *Noirmoutier* is a fertile island, containing about three square leagues, opposite to the north extremity of the department. It has a port capable of receiving vessels of fifty or sixty tons. But downs of fine sand, near its north-west coast, are frequently raised by the wind, and driven into the interiour part of the island. *Ile Dieu* is a very small island, covered with a thin bed of vegetable soil, mixed with sand, and not productive.

9. *Deux-Sévres*, formerly Lower Poitou, between Vendée and Vienne, in 46° 30′ N. latitude, containing 305 square leagues, and 242,658 inhabitants; divided into four circles, viz. Thouars, 43,543 inhabitants; Parthenay, 53,020; Niort, 84,928; Melle, 61,167. The soil of this department, in general, is fertile, yielding grain, wine, fruits, and pastures. The south-west district is marshy.

IX. *The North-west Region comprehending* 9 *Departments.*

1. *Manche*, composed of Cotantin and Avranchin, a maritime territory opposite to Jersey and Guernsey, in 49° N. latitude, containing 318 square leagues, and 528,912 inhabitants; divided into five circles, viz. Valognes, 143,777 inhabitants; St Lo, 90,329; Mortain, 69,565; Avranches, 94,711; Coutances, 130,530. The soil, partly sandy and partly marshy, is better adapted to pasture than cultivation. It produces, however, some grain, flax, hemp, fruits, and roots. There are mines of copper, iron, and cinnabar, with mineral springs. Considerable quantities of salt are prepared and exported.

2. *Calvados*, formerly Lower Normandy, a maritime department eastward of Manche, in 49° 10′ N. latitude, containing 288 square leagues, and 480,327 inhabitants. It is divided into six circles, viz. Bayeux,

Bayeux, 74,998 inhabitants; Caen, 122,856; Pont L'Eveque, 60,091; Lisieux, 72,995; Falaise, 69,564; Vire, 71,823. The indifferently fertile soil yields grain, hemp, flax, fruits, and pastures. There are mines of iron; and salt is prepared from the salt pits along the coast.

3. *Orne*, composed of the south part of Normandy, and almost the whole of Perche, south of Calvados, in 48° 10′ N. latitude, containing 310 square leagues, and 397,921 inhabitants; divided into four circles, viz. Domfront, 110,526 inhabitants; Argentan, 106,495; Alençon, 67,372; Mortagne, 113,528. Traversed from east to west by a ridge of hills partially covered with forests, it contains many tracts of an indifferent soil, yielding grain, flax, hemp, and pastures. There are iron mines and mineral springs.

4. *Sarthe*, composed of Upper Maine and Anjou, south of Orne, in 48° 10′ N. latitude, containing 321 square leagues, and 387,166 inhabitants; divided into four circles, viz. Mamers, 113,591 inhabitants; St Calais, 63,035; Fleche, 82,866; Mans, 127,674. The soil is various and tolerably fertile; but a considerable proportion of it is uncultivated. The products, according to the quality and melioration of the soil, are wheat, rye, barley, wine, fruits, with abundance of pasture.

5. *Mayenne*, formerly Lower Maine, westward of Sarthe, in 48° 15′ N. latitude, containing 266 square leagues, and 328,397 inhabitants; divided into three circles, viz. Mayenne, 157,256 inhabitants; Laval, 106,141; Chateau-Gonthier, 65,000. A great proportion of this department is hilly and covered with forests; there are many sandy tracts, and few cultivated plains. The borders of the rivers Sarthe and Mayenne yield some grain, fruits, and abundant pastures. There are mines of iron, quarries of marble and stone, mineral springs, &c.

6. *Morbihan*, formerly Lower Bretagne, a maritime territory between Vilaine and Finisterre, in 48° N. latitude, containing 328 square leagues, and 425,485 inhabitants; divided into four circles, viz. Pontivy, 91,788 inhabitants; Ploermel, 88,504; L'Orient, 122,798; Varnes, 122,395.

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The soil, though unequal, is fruitful, yielding grain, rye, flax, fruits, and excellent pastures. There are mines of lead and coal. Belle-isle, belonging to this department, contains 5,569 inhabitants, and is abundantly fertile. Houac and Hœdie are islets of little importance, inhabited by fishermen.

7. *Finisterre*, a portion of Bretagne, in 48° 25′ N. latitude, the most westerly department of France, and on three sides bounded by the sea, containing 343 square leagues, and 474,349 inhabitants; divided into five circles, viz. Brest, 149,610 inhabitants; Morlaix, 109,914; Chateaulin, 82,131; Quimper, 84,074; Quimperlé, 48,620. It is tolerably fertile, producing grain, flax, hemp, fruits, and good pastures, with mines of iron and lead.

8. *Cotes du Nord*, formerly Upper Bretagne, a maritime territory between Finisterre and Ille, in 48° 30′ N. latitude, containing 353 square leagues, and 499,927 inhabitants; divided into five circles, viz. Lannion, 83,633 inhabitants; St Brieuc, 145,176; Denan, 96,327; Loudeac, 85,271; Guingamp, 89,520. The cultivated tracts yield abundance of grain, wine, flax, fruits, and pastures. There are iron and lead mines.

9. *Ille* and *Vilaine*, a portion of Bretagne, westward of Mayenne, in 48° 20′ N. latitude, containing 347 square leagues, and 488,605 inhabitants; divided into six circles, viz. St Malo, 101,089 inhabitants; Fougeres, 76,577; Vitré, 74,885; Redon, 66,707; Montfort, 55,597; Rennes, 113,376. This department, of a clayey soil and intersected by gentle eminences, is indifferently fertile, and badly cultivated; producing scanty crops of grain, flax, fruits, and good pastures on the borders of the rivers. The fertile marsh of Dol is reckoned the delta of the territory. There are considerable forests, mines of iron and lead, quarries of stone, &c.

X. *The Central Region comprehending* 9 *Departments.*

1. *Loir* and *Cher*, composed of Blesois and Sologne, districts of Orleanais, in 47° 40′ N. latitude, south-east of Sarthe, containing 339 square leagues, and 211,152 inhabitants; divided into three circles, viz. Vendome, 68,330; Blois, 103,268; Romorantin, 39,554. The soil of this department is partly sandy and partly fertile; yielding grain, wine, fruits, and pastures. It abounds in lakes, marshes, and heaths, with considerable forests, iron mines, &c.

2. *Loiret*, a portion of Orleanais, eastward of Loir and Cher, in 47° 50′ N. latitude, containing 356 square leagues, and 289,728 inhabitants; divided into four circles, viz. Pithiviers, 55,061 inhabitants; Montargis, 61,912; Gien, 37,395; Orleans, 135,360. The soil of the second circle is sandy, yielding little grain. The products of the other districts are grain, wine, hemp, saffron, fruits, and pastures.

3. *Yonne*, formerly Yonne, east of Loiret, in 47° 50′ N. latitude, containing 373 square leagues, and 333,278 inhabitants; divided into five circles, viz. Sens, 57,285 inhabitants; Joigny, 81,933; Auxerre, 103,882; Tonnerre, 47,394; Avallon, 42,784. The soil is various. There are some dry and indifferently fertile tracts, diversified with little hills. The western part is of a clayey soil, covered with woods and pools. The cantons to the south and east are planted with vineyards; and the northern district is tolerably cultivated. The department, in geueral, is fertile, producing grain in abundance, with wine, fruits, and excellent pastures.

4. *Nievre*, formerly Nivernais, in 47° 10′ N. latitude, south of Yonne, containing 362 square leagues, and 251,158 inhabitants; divided into four circles, viz. Cosne, 57,788 inhabitants; Clamecy, 65,465; Nevers, 77,596; Chateau-Chinon, 50,309. The soil, in general, yields grain, wine, flax, fruits, and pastures; but that of Chateau-Chinon is of a bad quality.

quality. There are mines of iron and coal, marble quarries, and mineral springs.

5. *Allier*, formerly Bourbonnais, south of Cher and Nievre, 46° 30′ N. latitude, containing 365 square leagues, and 272,616 inhabitants; divided into four circles, viz. Montluçon, 62,912 inhabitants; Moulins, 80,417; Gannat, 59,759; Palisse, 69,528. The soil of this department is various. Some tracts consist of clay,—some are sand,—and others are clay decomposed. The products are grain, wine, and pastures. There are woods, mines of iron, lead, and coal, quarries of marble, mineral springs, pools, and stagnant waters.

6. *Puy de Dome*, formerly Lower Auvergne, south of Allier, in 45° 40′ N. latitude, containing 447 square leagues, and 508,444 inhabitants; divided into five circles, viz. Riom, 126,640 inhabitants; Thiers, 61,530; Ambert, 73,535; Clermont, 158,449; Issoire, 88,290. The soil of this department, diversified with hills and plains, is remarkably fertile, producing, in abundance, grain, wine, fruits, hemp, and pastures. There are mines of silver and lead, mineral springs, &c.

7. *Creuse*, formerly Marche, in 46° 5′ N. latitude, westward of Puy de Dome, containing 288 square leagues, and 216,262 inhabitants; divided into four circles, viz. Gueret 73,670 inhabitants; Boussac, 29,580; Aubusson, 81,682; Bourganeuf, 31330. The soil, indifferently fertile, yields oats, rye, wine, fruits, and pastures. There are mines of coal, quarries of marble, mineral springs, &c.

8. *Indre*, formerly Lower Berri, westward of Cher, in 46° 45′ N. latitude, containing 362 square leagues, and 207,911 inhabitants; divided into four circles, viz. Issoudun, 39,341 inhabitants; Chateauroux, 75,588; Chatre, 45,171; Blanc, 47,811. The western district of this department abounds in rocks, pools, and woods; but the other tracts, and in particular that on the right hand of the Indre, consist of cultivated fields, vineyards, &c. yielding grain, wine, and pastures. There are mines of iron, marble quarries, and mineral springs, &c.

9. *Cher*, Upper Berri, in 47° N. latitude, west of Nievre, containing 369 square leagues, and 218,297 inhabitants; divided into three circles, viz. Sancerre, 56,421 inhabitants; Bourges, 86,263; St Amand, 75,613. The soil of this department along the borders of the Loire and the Arnon is fertile; the south and south-east tracts are indifferent, and northward are heaths and barren sands. Near the middle of the territory, there is a mixture of good and bad soil, yielding all sorts of grain, with hemp, flax, wine, and pastures. There are mines of iron and ochre, stone quarries and mineral springs.

Piedmont, united to the French Republic, August 26. 1802, *includes the six following Departments.*

1. *Doire*, formerly the dutchy of Aoste and Canavese, in 45° 30′ N. latitude, south of Valais, and east of Mont Blanc, containing 240 square leagues, and 224,127 inhabitants; divided into three circles, viz. Aoste, 58,900 inhabitants; Ivrée, 105,108; Chivas, 60,119. The soil of this department, diversified with mountains and well watered vallies, is unequal. On its frontier are the Great and Little St Bernard. The valley of Aoste abounds in fruit trees and pastures. Several cultivated tracts yield some grain, wine, and hemp. In the mountains there are mines of iron and other metals.

2. *Sesia*, composed of Verceil and Masserans, in 45° 25′ N. latitude, eastward of Doire, containing 140 square leagues, and 204,445 inhabitants; divided into three circles, viz. Verceil, 79,391 inhabitants; Santhia, 36,014; Bielle, 89,040. The climate of this department is unhealthy; the eminences and hills are favourable for the culture of the vine; the cultivated plains yield abundance of grains, fruits, and pastures.

3. *Marengo*, composed of Montserrat, Alexandria, Tortoneze, and Laumelline, in 44° 50′ N. latitude, containing 181 square leagues, and 231,954 inhabitants; divided into five circles, viz. Casal, 108,926 inhabitants;

bitants; Alexandria, 76,081; Voghere, 67,296; Bobbio, 21,288; Tortone, 48,366. This department, lying between the Po and the Ligurian Republic, is hilly but fertile, yielding all sorts of grain, fruits, wine, and excellent pastures. There are iron mines in the vicinity of Serravalle.

4. *Tanaro*, formerly Acqui and Asti, in 44° 45′ N. latitude, westward of Marengo, containing 197 square leagues, and 311,458 inhabitants; divided into three circles, viz. Asti, 131,910 inhabitants; Acqui, 82,914; Alba, 96,634. The soil is broken by torrents, which form many lakes and marshes. The south-west district consists of barren spots and fruitful vallies; the northern part is fertile, and the hills yield abundance of wine of an inferior quality. The principal products of the department are grain, fruits, and pastures, with quarries of stone, mineral springs, &c.

5. *Stura*, composed of the districts of Savillian, Mondovi, Coni, Saluces, and Ceva, in 44° 25′ N. latitude, south-west of Tanaro, containing 354 square leagues, and 411,669 inhabitants; divided into four circles, viz. Saluces, 81,985 inhabitants; Savillian, 88,807; Mondovi, 109,444; Coni, 131,433. This department is mostly covered with high mountains, and wooded hills, between which are well watered vallies. The soil, in general, is not adapted to culture. Some tracts, however, are abundantly fertile; in others are immense forests of chesnuts.

6. *Po*, formed of the district of Turin, quatre-vallées, and the marquisate of Susa, in 45° N. latitude, lying between Doire and Stura, and on the west and north-west bounded by the Alps, containing 264 square leagues, and 395,193 inhabitants; divided into three circles, viz. Suza, 61,236 inhabitants; Turin, 232,323; Pignerol, 101,634. Situate at the foot of the Alps, and broken into vallies, hills, and plains, the soil of this department is of various qualities. The plains and vallies, in general, are fertile. In the mountains are mines of copper, lead, iron, quarries of marble, stone, slate, &c.

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An Alphabetical List of Departments specifying their relations to the Provinces into which France was formerly divided; together with their extent, subdivisions, and population, according to M. Hassenfratz.

Departments.	Chief Towns.	Provinces, &c. to which they belonged.	Extent in French leagues.		Circles.	Cantons.	Population
			Length.	Breadth.			
Ain,	Bourg,	Dombes, Bresse, Bugney,	22	17	9	49	307,756
Aisne,	Laon,	Flanders, Hainault, &c.	36	17	4	63	407,905
Allier,	Moulins,	Bourbonnais,	34	20	6	59	267,126
Alps, Lower	Digne,	Upper Provence,	35	20	5	43	168,937
—— Upper	Gap,	Gapencais, Embrunais, &c.	34	30	4	39	120,485
—— Maritime	Nice,	County of Nice,			3	20	96,585
Ardeche,	Privas,	Vivarais, Cevennes,	26	17	6	66	247,612
Arriegge,	Mezieres,	Rethelais, Porcien, Sedan,	25	17	3	28	197,889
Aube,	Troyes,	Champagne Proper,	28	22	6	53	288,883
Aude,	Carcassone,	Lower Languedoc,	30	22	6	45	239,642
Aveiron,	Rodes,	Rouergue, Marche,	35	31	9	81	371,835
Buches du Rhone,	Aix,	Lower Provence,	30	20	5	40	446,645
Calvados,	Caen,	Caen, Bessin, Bocage, &c.	32	32	6	71	391,332
Cantal,	Aurillac,	Upper Auvergne,	24	22	4	20	239,972
Charente,	Angouleme,	Angoumois,	30	25	6	44	359,789
Charente, Lower	Saintes,	Saintonge, Aunis,	40	22	7	47	438,042
Cher,	Bourges,	Upper Berri,	35	24	7	42	297,341
Correze,	Tulle,	Lower Limozin,	22	20	4	40	269,767
Corsica,	Bastia,	Corsica, 2 departments,	34	17			247,779
Cote d'Or,	Dijon,	Montagne, Auxois, Dijonnais,	32	25	7	88	342,980
Cotes du Nord,	St Brieux,	Upper Bretagne,	30	15	9	81	523,860
Creuse,	Gueret,	Marche,	20	19	7	35	238,352
Dordogne,	Perigueux,	Besançon in Franche-Comté,	30	30	10	72	433,743
Doubs,	Besançon,	Besançon,	26	15	6	51	219,642
Drome,	Valence,	Valentinois, Diois,			6	62	246,687
Eure,	Evreux,	Pays d'Ouche, in Normandy,	30	27	6	55	407,352
Eure and Loire,	Chartres,	Beauce,	28	26	6	40	256,656
Finisterre,	Quimper	Lower Bretagne,			9	80	283,730
Forets,	Luxembourg,	Luxembourg and Buillon,			4	27	193,911
Gard,	Nimes,	Lower Languedoc,	30	25	8	57	313,164
Garonne, Upper	Toulouse,	Upper Languedoc,	43	26	8	55	456,337
Gers,	Auch,	Armagnac, Condomois, &c.	17	12	6	45	315,854
Gironde	Bordeaux,	Bordelois, Blayois, &c.	34	30	7	72	497,591
Kerault,	Montpellier,	Lower Languedoc,	35	29	4	52	296,126

Departments.	Chief Towns.	Provinces, &c. to which they belonged.	Extent in French leagues		Circles.	Cantons.	Population.
			Length.	Breadth.			
Jemmape, –	Mons, –	Austrian Hainault, –			5	28	408,688
Ill and Villaine,	Rennes, –	Upper Bretague, – –	27	22	9	79	519,169
Indre, –	Chateauroux,	Lower Berri, – –	24	20	6	48	229,768
Indre and Loire,	Tours, –	Touraine, – –	27	24	7	35	272,925
Isere, –	Grenoble, –	Gresivaud, &c. in Dauphné,	36	24	4	91	365 380
Jura, – –	Lons-le-Saunier,	Dole and Aval, in Franche Comté,	24	16	6	62	282,200
Lake Leman,	Geneva, –	Gex, Savoy, Geneva, –			3	19	96,000
Landes, –	Mont de Marsan,	Landes, Chalosse, &c. –	26	25	4	25	257,387
Loir and Cher,	Blois, –	Blasois, Sologne, –	34	23	6	30	200,227
Loire, Upper	Le Pui, –	Velay, Cevennes, – –	26	17	3	32	216,150
—— Lower	Nantes, –	Upper Bretagne, –	30	27	9	53	331,270
Loire, –	Montbrison, –	Forrez, in Lyonnais, –	24	12	3	43	322,966
Loiret, –	Orleans, –	Orleanais, – –	30	24	6	59	285,766
Lot, – –	Cahors, –	Quercy, in Guienne, –	34	30	7	48	443,667
Lot and Garonne,	Toulouse, –	Upper Languedoc, –	23	18	9	72	411,808
Lozere, –	Mende, –	Gevaudan, Cevennes, –	18	15	7	52	142,110
Lys, – –	Bruges, –	Austrian Flanders, –			3	28	475,118
Manche, –	St Lo, –	Cotentin, Avranchin, –	35	14	7	63	463,320
Marne, –	Reims, –	Remois, Pertois, – –	33	30	6	73	348,885
—— Upper	Chaumont, –	Bassigny, in Champagne, –	29	19	6	71	223,010
Mayenne, –	Laval, –	Upper Maine, – –	22	16	7	68	323,607
Mayenne & Loire,	Angers, –	Anjou, – – – –	26	21	8	99	445,500
Meurthe –	Nancy, –	Lorraine, Toulois, –	26	16	9	74	351,161
Meuse, –	Bas-sur-Ornain,	Barrois, Verdunois, –	33	16	8	79	268,108
—— Lower	Mæstricht, –	Liege, Gueldre, –			3	30	216,566
Mont Blanc, –	Chambery, –	Savoy, – – –	30	34	6	75	423,635
Mont Terrible,					2	13	49,311
Mont Tonnerre,	Mayence, –	Electorate of Mentz, &c.	20	19	4	37	2 80,000
Morbihan, –	Vannes, –	Lower Bretagne, –	27	20	9	70	281,565
Moselle, –	Metz, –	Messin, Luxembourg, &c.	45	17	9	76	328,365
Deux Nethes,	Antwerp, –	Part of Brabant, –	19	13	1	23	153,981
Nievre, –	Nevers, –	Nivernais, – – –	24	23	9	47	235,699
Nord, – –	Douay, –	French Flanders, Hainault, &c.	44	10	8	59	447,910
Oise, – –	Beauvais, –	Beauvoisis, – –	27	18	9	76	385,206
Orne, – –	Alençon, –	Marches, Alençon, &c. –	32	15	6	51	348,972
Ourthe, – –	Liege, –	Liege, Limbourg, –	12	12	5	36	310,444
Pas de Calais, –	Arras, –	Artois, Calaisis, &c. –	37	15	8	85	532,739
Puy de Dome, –	Clermont, –	Lower Auvergne, –	35	22	8	71	516,593
Pyrenees, Lower	Pau, – –	Bearn, Basquis, –	16	10	6	44	138,339
———, Upper	Tarbes, –	Bigorre in Gascogne, –	20	16	5	30	188,690
———, Eastern	Perpignan, –	Rousillon, – –	28	15	3	25	114,158
Rhine, Lower –	Strasbourg, –	Lower Alsace, – –	30	15	5	30	415,080
——, Upper –	Colmar, –	Upper Alsace, Sundtgaw, &c.	24	14	3	25	283,252
Rhine and Moselle,	Coblentz, –	Electorate of Treves, –	25	12	3	30	372,000
Rhone, –	Lyon, –	Lyonnais, Beaujolais, –	20	9	2	32	323,177
Roer, – –	Aix-le-Chapelle,	Juliers and Cologne, –	23	13	4	40	324,960
Sambre & Meuse,	Namur, –	Namur and Liege, –	20	15	4	26	150,754
Soane, Upper			26	17	6	48	264,111
Soane and Loire,	Maçon, –	Autonais, Maconnais, &c. –	34	24	7	90	442,600
Sarre, – –	Treves, –	Treves, Deuxponts, &c. –	39	14	3	31	440,000
Sarthe, – –	Le Mans, –	Lower Maine, – –	25	20	9	33	347,837

Seine,

Departments.	Chief Towns.	Provinces, &c. to which they belonged.	Extent in French leagues.		Circles.	Cantons.	Population.
			Length.	Breadth.			
Seine, – –		Part of Isle de France, –	6	5	8	17	947,472
——, Lower –	Rouen, –	Roumois, Pays de Caux, &c.	35	20	7	64	536,400
Seine and Marne,	Melun, –	Gatinais and Brie, –	32	16	5	37	296,467
Seine and Oise,	Versailles, –	Mantais, Vex in Francais, –	24	18	9	59	471,612
Sevres Deux,	Niort, –	Lower Poitou, – –	32	12	6	50	259,122
Somme, –	Amiens, –	Ponthieu, Santerre, &c. –	34	16	5	72	381,760
Tarn, – –	Alby, –	Upper Languedoc, –	30	20	5	48	289,148
Var, – –	Draguignan, –	Lower Provence, –	30	20	9	80	275,472
Vaucluse, –	Avignon, –	Venaissin and Orange, –	15	10	4	52	200,500
Vendee, –	Fontenay, –	Saintonge, Aunis, –	24	21	6	58	305,610
Vienne, –	Poi, –	Upper Poitou, – –	24	13	6	49	257,953
Vienne, Upper	Limoges, –	Upper Limosin, –	26	12	5	40	266,910
Vosges, –	Epinal, –	Pays des Vosges, –	26	16	9	60	289,054
Yonne, –	Auxerre, –	Auxerrois, – –	29	25	7	69	364,969

The French having introduced a new mode of computing time, a concise account of it may be acceptable to the reader. After the death of Louis XVI. application was made to the Academy of Sciences for a commission to prepare a new calendar. After mature deliberation, it was decreed, that the æra of the republic should be reckoned from Septemtem 22. A. D. 1792 of the vulgar æra, when the sun arrived at the autumnal equinox, at 9^h $18'$ $30''$ A. M.—That the vulgar æra should be discontinued in all civil concerns;—that every year should commence with the day on which the true autumnal equinox falls, according to the observatory at Paris;—and that the first year of the French republic actually began at midnight, Sept. 22. 1792, and ended at midnight beween the 21st and 22d of September 1793. In order to preserve the seasons stationary at the same epochs of the year, it was decreed,—That the fourth year of the republic should be Sextile, or leap year, that is, should receive a sixth complementary day, and should recur every fourth year;—That the first, second, and third secular years, viz. 100, 200, and 300, should be common years; and that the fourth should be Sextile;—That this should be the arrangement every four centuries, until the fortieth, which should be a common year.

In

In this calendar the months are resolved into four divisions, each of which consists of three months, corresponding to one or other of the seasons. The three autumnal months end in *Aire;* the winter months in *Ose;* the spring in *Al;* the summer in *Or.* The names assigned to the months are as follows:---1. *Vendemaire*, or vintage month, beginning September 23d; *Brumaire*, or foggy month, October 23d; *Frimaire*, or sleety month, November 22d; *Nivose*, or snowy month, December 22d; *Pluviose*, or rainy month, January 21st; *Ventose*, or windy month, February 20th; *Germinal*, or budding month, March 22d; *Floreal*, or flowery month, April 21st; *Prairial*, or meadow month, May 21st; *Messidor*, or harvest month, June 20th; *Thermidor*, or hot month, July 20th; *Fructidor*, or fruit month, August 19th; in all 360 days. The remaining five days are supplementary, and inserted in 18th--22d September inclusive; so that the 22d of this month is the last day of the French year.

The months are also divided into three decades, of ten days each, and named *Primidi*, *Duodi*, *Tridi*, *Quartidi*, *Quintidi*, *Sextedi*, *Septidi*, *Octodi*, *Nonidi*, and *Decadi.*

The day, which begins at midnight, is divided into ten parts, each of which is decimally divided and subdivided.

A Table, in which the French and Gregorian Calendars are compared.

Year of the Republic.	Gregorian Year.	Commencement of the French Year.	Autumnal Solstice.
			H. M. S.
14	1805—6	Sept. 23 S	0.41.37 A.
15	1806—7	—— 23	6.30.26 A.
16	1807—8	—— 24	0.19.15 M.
17	1808—9	—— 23 b	6. 8. 4 M.
18	1809-10	—— 23	11.56.53 M.
19	1810-11	—— 23	5.45.42 A.
20	1811-12	—— 23 S	11.34.33 A.
21	1812-13	—— 23 b	5.23.20 M.
22	1813-14	—— 23	11.12. 9 M.
23	1814-15	—— 23	5. 0.58 A.
24	1815-16	—— 23 S	10.49.47 A.
25	1816-17	—— 23 b	4.38.36 M.
26	1817-18	—— 23	10.27.25 M.
27	1818-19	—— 23	4.16.14 A.
28	1819-20	—— 23 S	10. 5. 3 A.
29	1820-21	—— 23 b	3.53.52 M.
30	1821-22	—— 23	9.42.41 M.

b *denotes leap year*; S *sextile*; M *morning*; A *afternoon.*

If the Year begins on September 24, as in the 16th year of the Republic, the First Day of every Month will be One Day later; as October 24, November 23, December 23, &c.

French Possessions and Settlements in other parts of the Globe, each of which will be treated of in the Geography of the Countries to which they properly belong.

In the *Mediterranean.*—The French possess the Island of Corsica.—By the treaty of Campo Formio, Oct. 17. 1797. France obtained possession of the ci-devant Venetian islands in the Levant, viz. Corfou, Zante, Cephalonia, St Maure, Cerigo, and other islands dependent thereon; together with Butrinto, Larta, Vouizza, and, in general, all the ci-devant establishments of the Venetians in Albania, lower than the gulf of Lodrino.

In

In *North America.*—By the treaty in 1783, it was stipulated that France should recover, or retain, possession of all her former settlements in the West Indies; and particularly of the islands St Peter and Miquelon, St Domingo, Guadaloupe, Desirada, Maria-Galanta, Saintes, a portion of St Martin, Martinico, St Lucia, Tobago, &c. Louisiana has been recently ceded to the American States.

In *South America.*—By the treaty of Amiens March 27. 1802, the south limit of French Guiana was fixed at the mouth of the Arawari above North Cape, and opposite to New-Isle. Thence a line reached westward to the source of that river, and was continued to Rio Bianco, or Parimo. The extent of the coast is about 100 leagues. A mercantile company, A. D. 1635, attempted to establish a colony on the island of Cayenne, separated from the main land by the arm of a river of the same name. But neither this, nor succeeding attempts, to colonize any part of Guiana, have proved successful. During six months in the year, the plains are inundated; and the rains are followed by long and intense heat which parches the soil. Notwithstanding, arnotto, sugar-cane, cotton, indigo, rice, tobacco, and coffee are produced in abundance where the soil is cultivated.

In *Africa.*—French merchants, since the year 1364, occasionally traded on the western coast of Africa; and in 1664 a company was established for that purpose. In 1716 their privileges were, in part, united to those of the East India Company. Goree, one of their settlements, was taken by the English A. D. 1778, and Senegal in the following year; but both were restored by the treaty in 1783. The French Guiana Company obtained the exclusive privilege of trading for gum, and afterwards for gold dust and slaves. In 1791 the trade of Senegal was declared free.

Settlements on that coast.—Arguin Isle, 15 leagues south of Cape Blanco. A French factory was established at Portendic, between Arguin and the mouth of the river Senegal. The principal settlements of the

French are situate on the banks of that river. On the island of Senegal, several miles above the mouth of the river, is Fort Louis. Podor, a little fort, was constructed A. D. 1743, on the island of Morphil, many leagues above Fort Louis, and gum and slaves are the principal articles of trade. Fort Joseph, the most inland settlement on the Senegal, was ceded to the English A. D. 1763, and soon after was abandoned by them; declared to be a French factory by the treaty A. D. 1783. On the island of Goree, near Cape Verd, and on the coast of Terra Firma, southward to the Gambia, are several factories, which have been successively occupied by the Dutch, the English, and the French. The last of these have also settlements on the coast of Barbary, viz. Bastion-Francais, Bonne, La Calle, and Le Colo, occupied chiefly for the coral fishery.

French Settlements on the east coast of Africa, and in the Indian Ocean.—After the discovery of the Cape of Good Hope, the Portuguese established colonies, built forts, and planted garrisons at Sofala, Mozambique, Quiloa, Montbase, and Melinda, where they procured gold and slaves. But their trade in those parts soon declined. The French have occasionally resorted to that coast for the purchase of slaves.

Settlements have been attempted on the east coast of Madagascar, at Fort Dauphin, Foul-point, and Antongil Bay.

The French occupy the isle of Bourbon, or Reunion, the Isle of France, Rodrigo Isle, Sechelles, and Praslin, two of the Mahe Islands, Diego Garcias, where great quantities of turtle are found.

The factories and forts which the French had erected on the Malabar and Coromandel coast, are now in the possession of the English.

What follows concerns the Provinces, and has been omitted in its proper place.

N. B. It may be proper to inform the reader, that, although most of the distances above mentioned, being computed only, or copied from provincial maps recently constructed, cannot boast the accuracy of actual measurement, yet they will serve to convey a tolerable idea of the relative situations of the places which have been described.

Distances between the most Noted Places, and Routes of Travellers through the most Frequented Parts, of France.

I. From Paris N. to Calais, through Isle de France, Picardy, Ponthieu, and Boulogne.

	Miles.
From Paris to St Denis	6
To Chantilly	18½
— Clermont	14
— Breteuil	29
— Amiens	19
— Flexcourt	14
— Abbeville	14
— Bernay	13
— Montreul	14
— Boulogne	22
— Calais	22
	176½

II. From Paris N. E. to Spa, by Bruxelles, through Isle de France, Picardy, Artois, and Austrian Netherlands.

	Miles.
From Paris to Chantilly	24½
To Pont St Maxence	12
— Gournay	16
— Roye	18½
— Peronne	18½
— Cambray	23
— Valenciennes	17
— Mons	19½
— Hall	26½
— Bruxelles	8½
— Malines	14
— Antwerp	13
— Malines,	12
— Louvain	13
To Firlemont	11
— Liege	29
— Chaufontaine	12½
— Spa	13
	302

III. From Paris S. S. E. to Avignon and Marseille, through Isle de France, Nivernois, Bourbonnois, Auvergne, Lyonois, Dauphiné, and Provence.

	Miles.
From Paris to Essonne	18½
To Fontainbleau	18½
— Nemours	10
— Fontenay	12½
— Montarges	10½
— Nogent	11½
— Briare	16½
— Cosne	21½
— La Charte	19
— Nivers	16½
— St Pierre Moustier	14½
— Moulins	18½
— Varennes	18
— St Martin d'Estreaux	23
— Roanne	19½
— Tarare	24½
— Lyon	24
— Vienne	20½
— St Rambert	21½
— Valence	27
— Loriol	14
— Montelimert	14½
— Donzere	11
To Mornas	18
— Avignon	26
— Pontroyal	29
— Aix	23
— Marseille	20
	521½

IV. From Paris S. S. W. to Bourdeaux, by Tours, through Isle de France, Orleanois, Touraine, Poitou, Aunis, and Guienne.

	Miles.
From Paris to Linas	18½
To Etampes	12
— Angerville	10½
— Orleans	28¼
— Lailly	13¾
— Blois	21¼
— Veuves	13½
— Amboise	7½
— Tours	15¼
— Beauvais	24½
— Chatelherault	17¼
— Poitiers	19½
— Lusignan	15
— St Maxence	16¼
— Rohan-Rohan	24¾
— Rochelle	24¼
— Rochefort	21
— Saintes	23
— Mirambeau	26
— Blaye	15
— Bourdeaux	18
	385

V.

V. From Toulouse E. to Nice, by Montpellier and Marseille, through Languedoc and Provence.

	Miles.
From Paris to Villefranche	23
To Castelnaudary –	19¼
— Carcassone –	28¾
— Mons – –	21½
— Narbonne –	21
— Beziers – –	21¾
— Pezenas –	14¼
— Villemagne –	9½
— Montpellier –	24¾
— Lunel – –	15
— Nismes –	15¾
— Valignieres –	19½
— Pont St Esprit –	19¼
— Avignon –	28¼
— Pontroyal –	29
— Aix – –	23
— Marseille –	20
— Cuges – –	21
— Tulon – –	25
— Pignan –	23
— Vidauban –	25
— Frejus –	13
— Antibes –	33
— Nice – –	12
	321½

VI. From Calais S. S. E. to Dijon, through Artois, Picardy, Champagne, and Bourgogne.

	Miles.
From Calais to St Omer	24½
To Bethune –	27¾
— Arras – –	18½
— Cambray –	22¾
— St Quentin –	25
— Laon – –	27½
— Rheims – –	29½
— Chalons on the Marne	27½
— Vitry – –	22½
— St Dizier – –	17½
— Joinville –	19½
— Chaumont –	27
— Langres – –	20½
— Thil-le-Chatel –	26
— Dijon – –	15½
	351

VII. From Paris to Bareges, by Bourdeaux.

	Miles.
From Paris to Bourdeaux, No. IV. –	385
To Castres – –	14½
— La Reole –	24¼
— Aiguillon –	26½
— Agen – –	18
— Leitoure –	19½
— Auch – –	22
— Mirande –	16½
— Tarbes – –	28½
— Bareges –	36
	589¾

VIII. From Lyon to Basle, by Geneva.

	Miles.
From Lyon to Montluel	14½
To St Denis –	14¾
— Cerdon – –	13¾
— Nantua –	11¾
— Chatillon –	12¼
— Coulonges –	13¾
— Geneva – –	16½
— Rolles –	20
— Lausanne –	16
— Moudon – –	14¾
— Morat –	25
— Berne – –	16¾
— Soleure –	21
— Lichstal – –	28
— Basle – –	10¼
	249

Other Routes from the Capital to different parts of France.

	Leagues.
1. From Paris to Ostend, through Senlis, Peronne, Cambray, and Lille	87½
2. From Paris to Antwerp, through Senlis, Compiegne, St Quentin, Mons, and Bruxelles –	85½
3. From Paris to Cologne, through Soissons, Laon, Vervins, Maubeuge, Charleroy, Namur, Liege, and Aix-la-Chapelle	121
4. From Paris to Coblentz, through Chalons-sur-Marne, Verdun, Longwy, Luxembourg and Treves – –	133
5. From Paris to Manheim, through Challons-sur-Marne, Verdun, Metz, Sarrebruck, & Turckheim	129½
6. From Paris to Strasbourg, through Challons, Vitry-sur-Marne, St Dizier, Toul, and Nancy	121½
7. From Paris to Basil, through Troyes, Langres, Vesoul, and Belfort	121
8. From Paris to Geneva, through Troyes, Dijon, and Gex –	146½
9. From Paris to Turin, through Auxerre, Dijon, Chalons, Macon, Lyon, Bourgoin, Chamberry, & Mont Cenis –	160
10. From Paris to Perpignan, through Orleans, Limoges, Toulouse, and Narbonne –	232
11. From Paris to Bayonne, through Orleans, Limoges, Bourdeaux, and Mont-de-Marsan –	213
12. From Paris to Brest, through Dreux, Alencon, Laval, Rennes, St Brieux, and Morlaix –	147
13. From Paris to Cherbourg, through Evreux, Caen, Bayeux, and Valogne – –	88
14. From Paris to Havre, through Rouen and Yvetot –	52
15. From Paris to Dunkirk, through Senlis, Peronne, Arras, Bethune, St Omer, and Bergues	79

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